

# *Sinclair* **FARM TIME SAVERS**

**3<sup>RD</sup> EDITION**



**METHODS AND  
HOME-MADE  
APPLIANCES TO  
*Save Time  
and Labor***







Reg. U. S. Pat. Off.



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# *Sinclair* **FARM TIME SAVERS**

THIRD EDITION



A BOOK OF METHODS & EASY-TO-MAKE DEVICES TO SAVE TIME & LABOR ON THE FARM and IN THE FARM HOME. Also INFORMATION ON THE CARE & PROPER LUBRICATION OF FARM MACHINES.



Tremendous demand from farmers all over the United States for two previous editions of Farm Time Savers has necessitated the publishing of this 3rd Edition. It is presented with the compliments of your Sinclair Agent in the hope that its contents will be further helpful in saving time and effort on the farm.

**SINCLAIR  
REFINING COMPANY**

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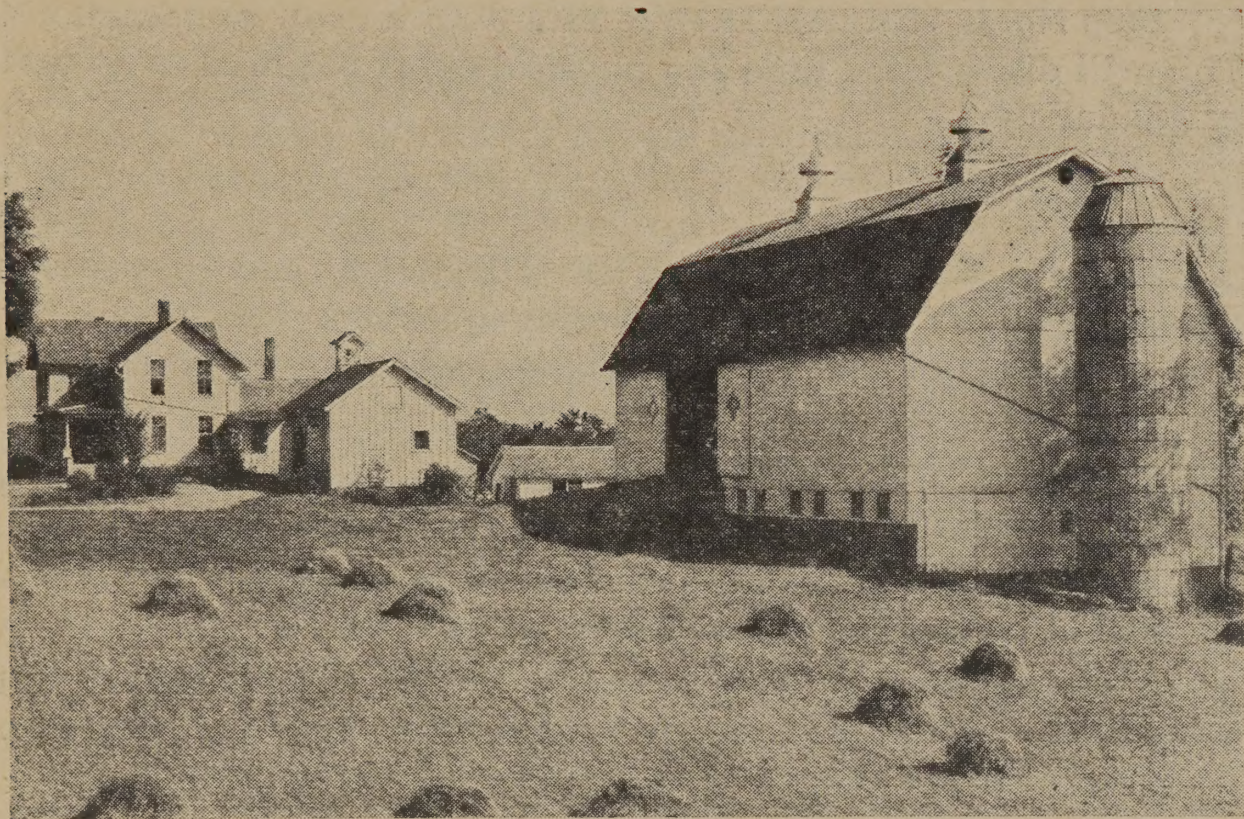
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## FARM WORK SIMPLIFICATION

Well-informed opinion is that the farm labor shortage may continue for several years. Faced with the present farm help problem and its long range possibilities, farmers are finding it helpful to analyze farming operations and step them up by adoption of methods that save time and labor. This procedure is generally known as Farm Work Simplification.

Many American farmers have demonstrated that Farm Work Simplification is both practical and profitable. Farm Time Savers illustrated in this book are evidence of ways and means that have been devised by farmers themselves to do the job faster with less labor. Work Simplification has been introduced in various industries as a successful means of dealing with manpower shortage.

General adoption of Farm Work Simplification to save time and labor in farming operations has the

endorsement of officials of the U. S. Department of Agriculture, farm college heads, and leading farmers. It may be easily applied to operations on any farm.

In brief, Farm Work Simplification meets the farm emergency through a better use of available manpower, machinery, and devices.

### A 4-STEP PLAN

Application of Farm Work Simplification is a simple 4-Step Plan applied to any farm job. Details of steps are given on the next page.



**Step No. 1. BREAK DOWN THE JOB** into all its operations. This will disclose the time and physical effort required to do that particular job.

**Step No. 2. ANALYZE THE DETAILS** and operations necessary to do the job, considering questions like these:

Are all of the steps and operations necessary to get the job done?

Can some of the steps and operations be combined into a single operation?

Would a change in the order of performing the operations make for less work and fewer operations?

Are equipment and its arrangement the most suitable and convenient? If not, can it be improved and rearranged to save time and labor?

Answers to the above questions will in many cases disclose unnecessary effort and time spent in doing the job. This leads to Step No. 3.

**Step No. 3. FINDING A BETTER WAY** to do the job, which is Farm Work Simplification.

This step will —

Eliminate unnecessary operations.

Combine two or more suitable operations into a single operation.

Rearrange the order of the operations to promote time and labor saving.

Improve equipment and its arrangement to save time and effort.

**Step No. 4. IS APPLYING THE SIMPLIFIED METHOD** developed as a result of the above three steps.



Some farmers may assume that the farm jobs worthy of analysis and attempted simplification are too few to warrant the effort. It is well to remember that time and labor savings are cumulative. Even a small saving on a minor job multiplies into big time and labor savings when repeated in many small jobs. And the savings in big jobs can be equal to many manhours saved in farming schedules.

Various examples of important time and labor saving through work simplification are reported by agricultural agencies and farm college experts. Here is a typical one.

A job study made on one farm showed that the farmer required 114 operations to feed his hogs. By analysis and simplification in line with the four steps previously discussed, the job was reduced to 81 operations and a saving of 25% in time.

In another instance, indicating the value of a simple appliance, a farmer was saved frequent trips to shut off a motor pump by having a float in the water tank hooked up so that it would shut off the motor when the water was at the right level.

A point emphasized by agricultural leaders is the necessity of

taking more advantage of farm machine power for time and labor saving. They also say there is opportunity in some types of field work for combining some of the operations.

Many farmers, especially those with the larger tractors, are tying two or three farm tools together, thus shortening tillage time. For example, a harrow behind a plow, a harrow behind the disk. Farmers using horses even tie one team on behind another implement. (See pages 22, 23).

Naturally, when farm operating routine has followed a definite groove for a period of years, there is apt to be skepticism about the value of interfering with old and well-tried methods. But reports from various sources indicate that where Farm Work Simplification has been introduced, it has helped greatly in solving the problem of farm labor shortage.

This much can be said definitely—it costs nothing to try out Farm Work Simplification. The benefits in labor saving, increased productivity, and more time at the disposal of the farmer for incidental work or enjoyment may be pleasantly surprising to those who give it a sincere trial.





# TO SAVE TIME AND WORK

## Put Your Daily Chores on Wheels!



*Why be a  
"pack horse"  
when a pair  
of old wheels  
can carry more  
and do it faster?*

**P**ROBABLY the one thing around the farm that uses up the most hours and requires the most physical effort is the never-ending job of moving crops, feeds, supplies, and equipment from one place to another.

The modern farmer plans every move, no matter how unimportant it seems, to find the way to get more and more work done in less time and with less effort. Farm help is scarce, there is more livestock, and just working from sun-



up to sundown is no longer the sign of a good or a smart farmer.

Take the job of feeding as an example. Do you like to hoist a sack of feed to the shoulder and carry it thirty yards or so over to a trough? Or carry a full bucket of moist mash in each hand, scatter it along the feeders in the laying house, then repeat the process until your 400 or maybe 800-bird flock has all it needs?

How many miles do you walk doing it? Wouldn't a simple home-made cart, that would carry all the feed in one trip, save a lot of time and a lot of shoe leather?

Take the regular morning and evening job of feeding a herd of



dairy cattle, for example. The chart below reveals two ways the job may be done. The criss-cross, zig-zag, long walk way with muscles strained under heavy loads, and then the feed cart way. The heavy load rolls on wheels. Walking is reduced to barest minimum, and the job is done in the least possible time.

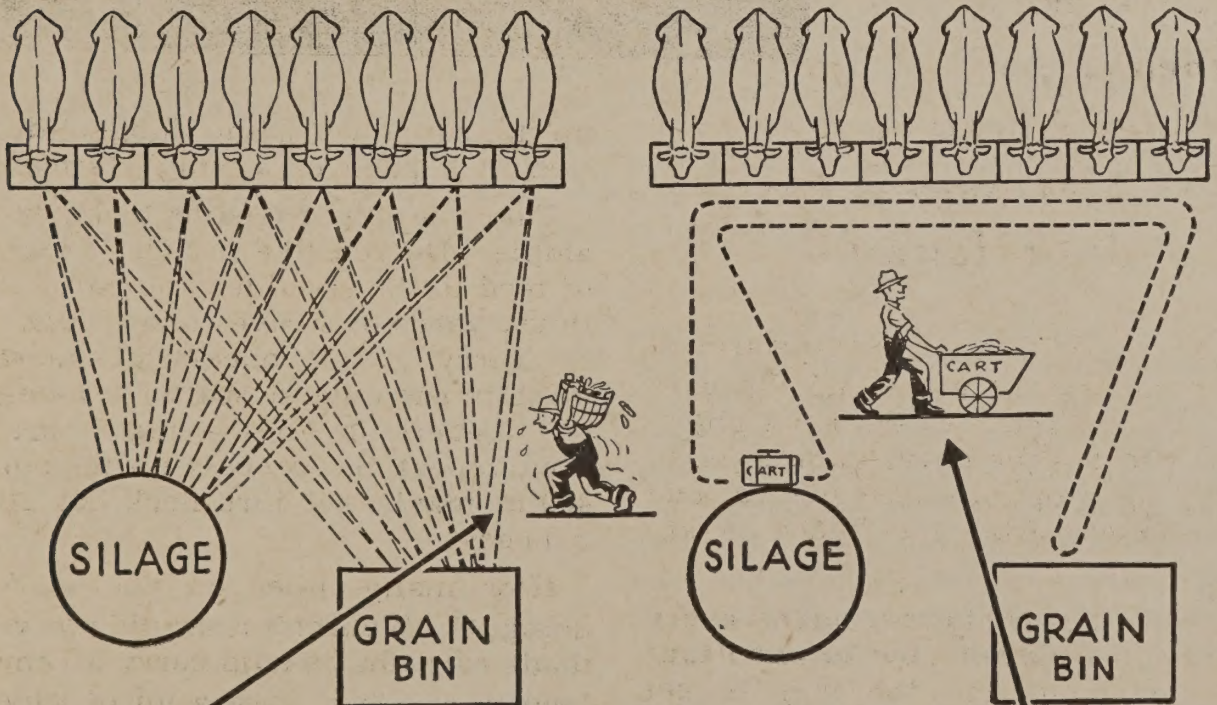
Location of hay chutes, of feed bins, and if there is running water, of water outlets, if looked at with an eye to step-saving often will make one wonder why they were ever placed where they are. A little work and a little ingenuity will place these sources of supply nearer the point where feed and

water are needed, and then a little figuring will reveal how many miles of walking have been saved. And don't think for a moment that use of the word miles is an exaggeration for in the course of a year, the saving may amount to fifty, seventy-five, or even a hundred miles of walking.

It has been by cutting corners, by making every step and every move count that management of our great factories has made low cost, mass production possible. These principles of corner-cutting may be applied to America's greatest and largest of all industries, the business of farming.

## Feeding Stock in the Barn

Count your steps when you do this daily chore—and multiply by the 365 days in a year. The result may surprise you!

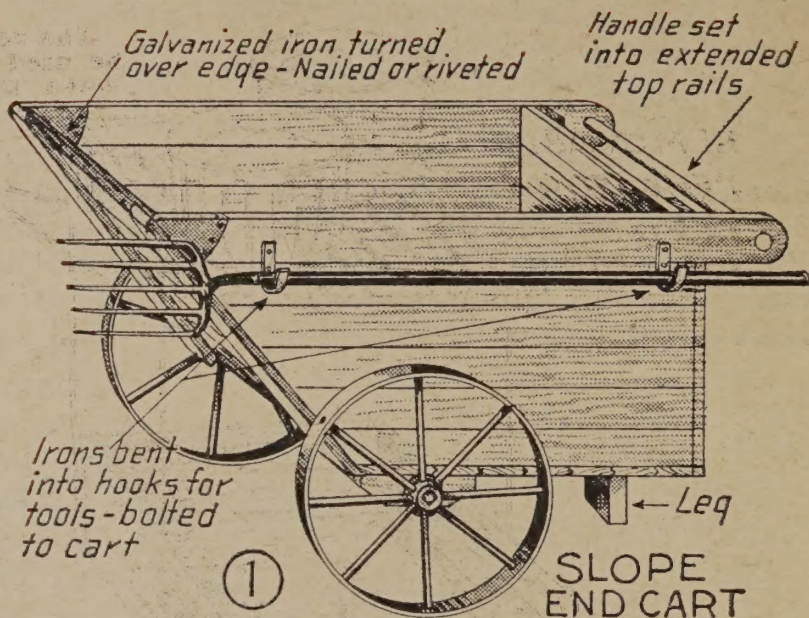


THIS MAN WALKS 40 to 50 MILES  
MORE A YEAR THAN THIS ONE



# Carts Are Easy To Make

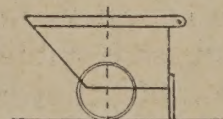
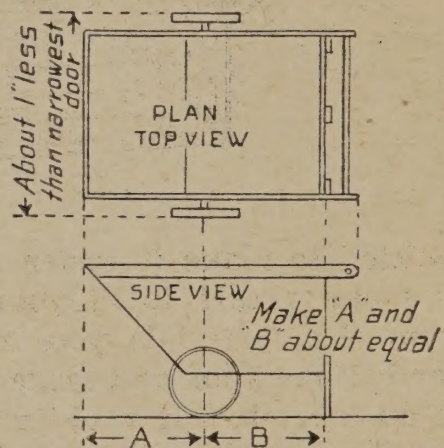
—and you  
can save many  
hours of hard  
work with one!



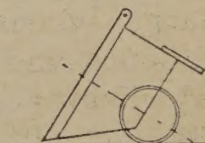
GOOD substantial carts, such as shown in these sketches, can be made from scrap material. Consider it as only a box on wheels and you will find it easy to put together. The sloping front allows quick dumping and easier shoveling. You can use a pair of old cultivator, buggy or auto wheels, with a plain steel rod for an axle if you don't carry too heavy a load. Nailed on, screwed on, or even glued on strips at the corners will add greatly to its strength and permit use of lighter materials.

The box floor should be tongue-and-groove lumber, but the sides may be of scrap materials. All that is required is that sides be tight enough to prevent ground feed from sifting through. Keep the handle close to the end of the box for easier control—remember you don't lift the load or carry any of the weight—you just balance it.

Before starting to build, check the narrowest doorways in the building or buildings in which you will have use for the cart, then



Balance so that most weight will come on the leg



Place wheels so front edge will hit floor for easy cleaning

build your cart so that it is comfortably narrower than the narrowest doorway. Also, if you have a low feed chute, be sure your cart will go under it.

Dimensions on the sketches are



The removable deck or platform can be used on style of cart. Hang it up when not in use.

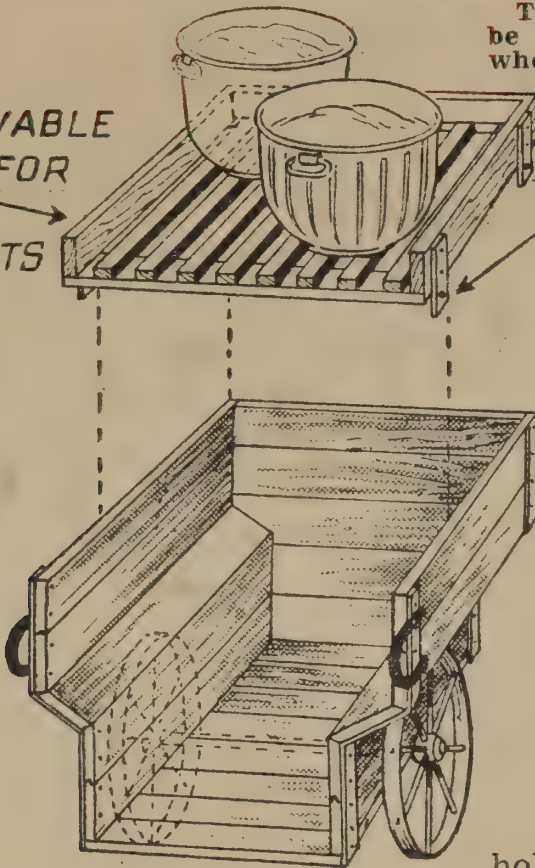
REMOVABLE  
DECK FOR  
FEED  
BASKETS

IRONS TO  
HOLD DECK  
TO TOP OF  
CART

HORSESHOE OR  
BENT IRON  
HANDLES

BAND  
IRON

LEG



②

OPEN END  
cart, built up over wheels  
for larger capacity.

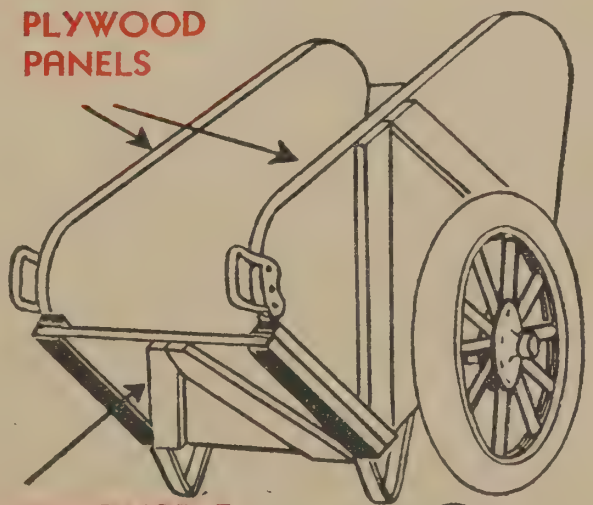
omitted to make it easier for you to make a cart to fit your needs from the materials you have on hand. Make your cart large enough to do the job, but avoid materials and size which will make it cumbersome.

Large wheels roll easier than small ones, and of course if rubber-tired wheels are available, they roll easiest of all. If there are any junked automobile parts left in your nearest junk yard, a little pawing around may bring to light some cheap wheels and axles. And when your cart building work is done, top it off with a coat or two of good paint.

In many cases it may be more convenient to build a rack or shelf on top of the body of the cart to

hold one or two metal baskets for grain or mixed feed. Such a rack should be made so that it can be easily removed and gotten out of the way when not needed.

PLYWOOD  
PANELS



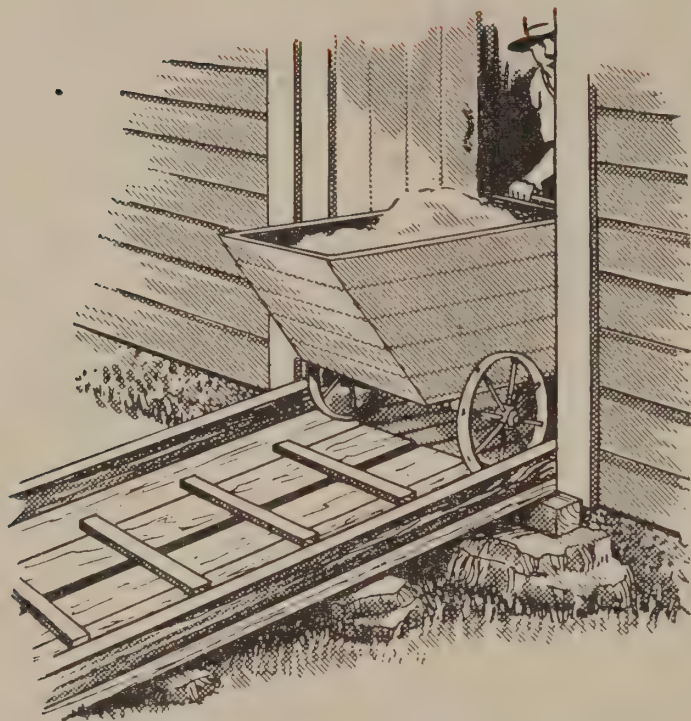
REMOVABLE  
SLIDING END

③

PANEL SIDE CART  
with one end made for easy removal.



# Cart Ramp for Raised Buildings



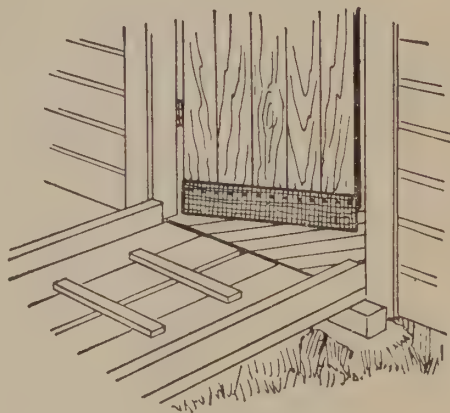
**W**HEN the granary or any storage building sets up on a foundation, you will need a ramp for your cart. Make it with a long, gentle slope so that a small boy can easily get the cart up and down. Use good, strong planks, spaced to fit the wheels of your cart. Nail 2x4's or other strips on the outside edges as a guard to prevent the cart wheels from running off. Cleats in the center will give better footing, especially in wet weather.

If the granary sets so close to a drive that a long slope ramp running straight into the building can't be used, there may be space to build one directly to the side of the building, with a large enough platform at door level to swing the cart into the door opening. Another way is to cut down the door sill and build part of the slope in-

side the building.

Other conditions may make it easier or better to move the driveway or the door.

Door sills that are built up from the floor can be easily removed and an extension



nailed to the bottom of the door. An old piece of heavy leather or fabric belting, nailed so that the edge makes a tight fit down on the threshold, will keep out weather and rodents.

---

**N**EXT time you have to unload a new implement or other heavy weight from your wagon, try using the hay carrier, at the end of the barn, for a derrick.

---

**I**F YOU have a long corn crib and only one opening, you can save considerable time by constructing a simple wood or galvanized iron spout extension for your elevator. Hang it from the top with chains.



## A Shoveling Chute Saves Time

**S**HOVELING chutes, with a hopper just inside the grain bin wall and an outlet on the outside high enough to run such a feed cart, as is described in this booklet, or a wagon under it, will save



## Cleaning Your Grain Bins

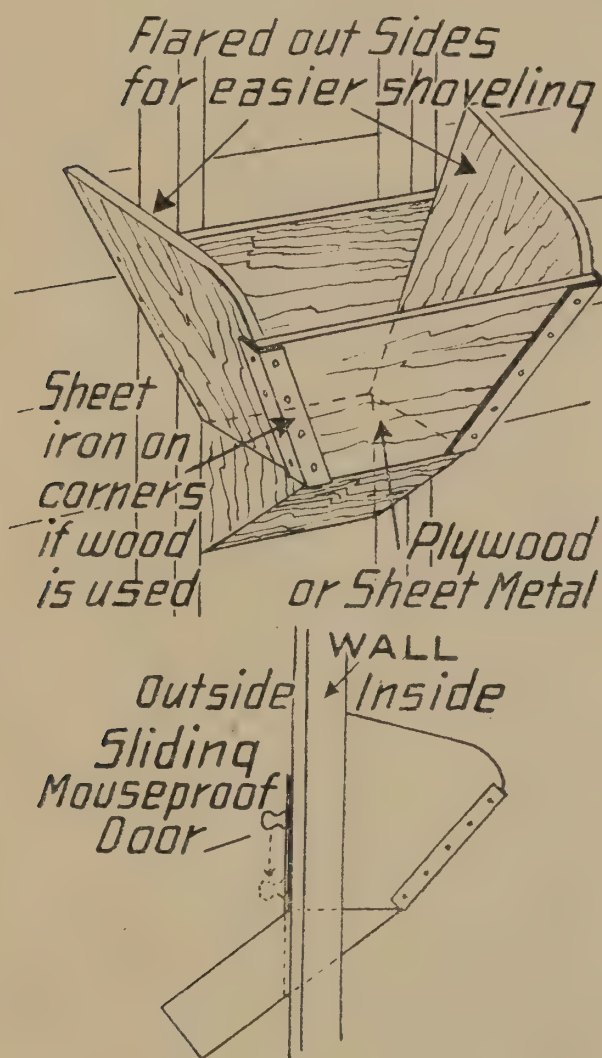
**I**NSECTS and rodents should not be allowed to eat or spoil grain. This calls for a good job of cleaning and rodent-proofing of every storage bin.

This can be done on rainy days when other farm operations cannot be carried on.

To get rid of Insects—Sweep the ceilings, walls and floors of the grain bins carefully. Remove the sweepings and feed immediately to chickens, or burn, to get rid of stored grain insects.

Spray the bin with Sinclair P.D. Insect Spray, using one gallon per thousand square feet of surface. Cover the walls, ceilings and floors thoroughly, and soak into the cracks and crevices particularly. Wait 48 hours, repeat spraying, and then let the bin air out.

To get rid of Rodents—If rats or mice are numerous, poison or gas them. Fit the granary doors with automatic closing and latching devices. Most common method is to use a heavy weight on a rope, with a drop latch. If rats are gnawing through the floor, lay down half-inch mesh hardware cloth and lay smooth flooring over that.



much back-tiring work. The hopper inside the bin should be big enough so it is easy to hit when shoveling grain from a distance. The sliding door must fit tightly to prevent rodents from getting into the bin and to prevent rain from seeping in around it.



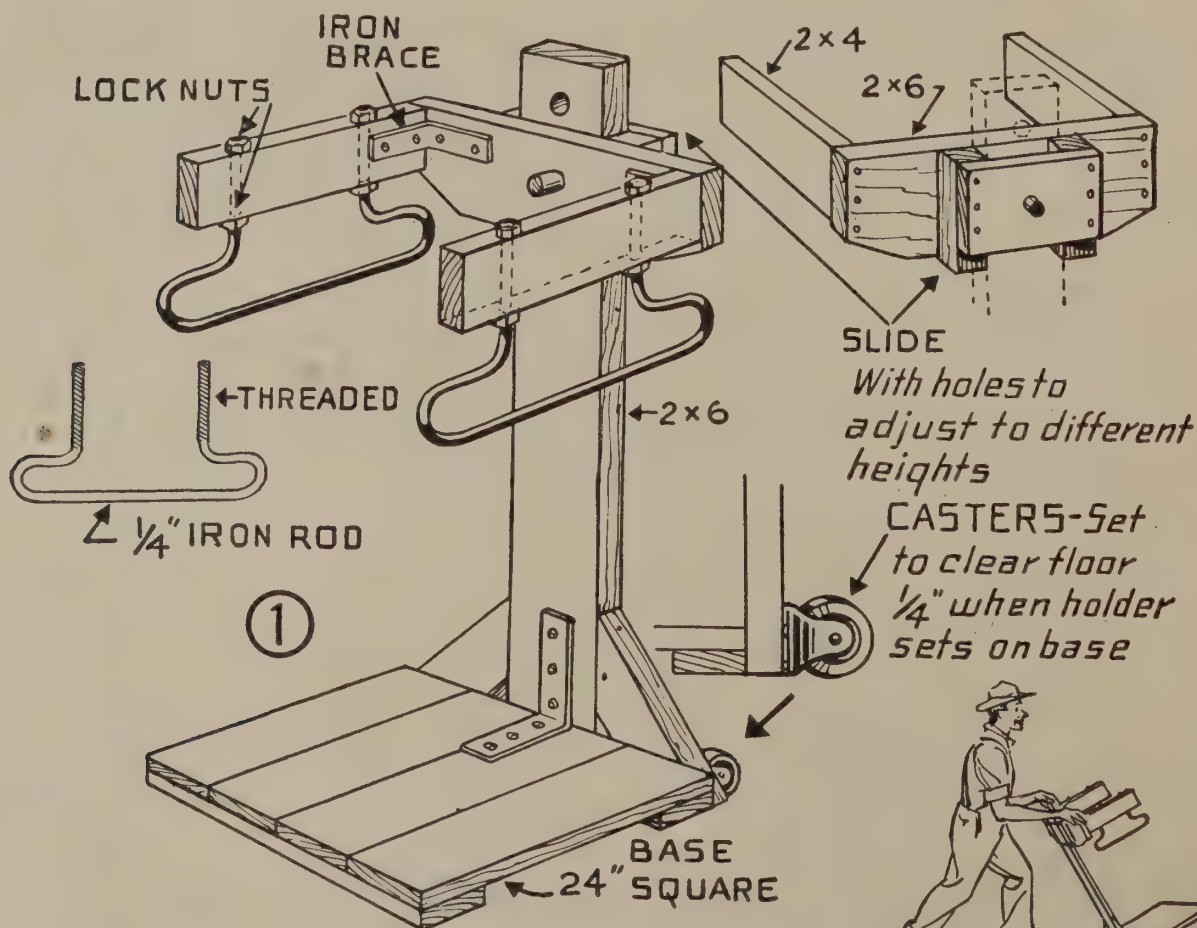
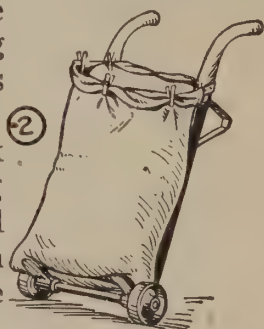
# Make Grain Sacking 1 Man Job

THE sacking device sketched on this page makes sacking grain a one-man job. You will note that the sack holder is a ring or wire band over which the top of the sack can be folded and another band placed over it. Another and simpler way is to use a ring of  $\frac{1}{4}$ -inch round iron and hold the folded-over top of the sack with spring-clip clothespins. Whenever you use clips or other devices for purposes like this, tie with a piece of string to save time trying to find them if dropped or knocked off.

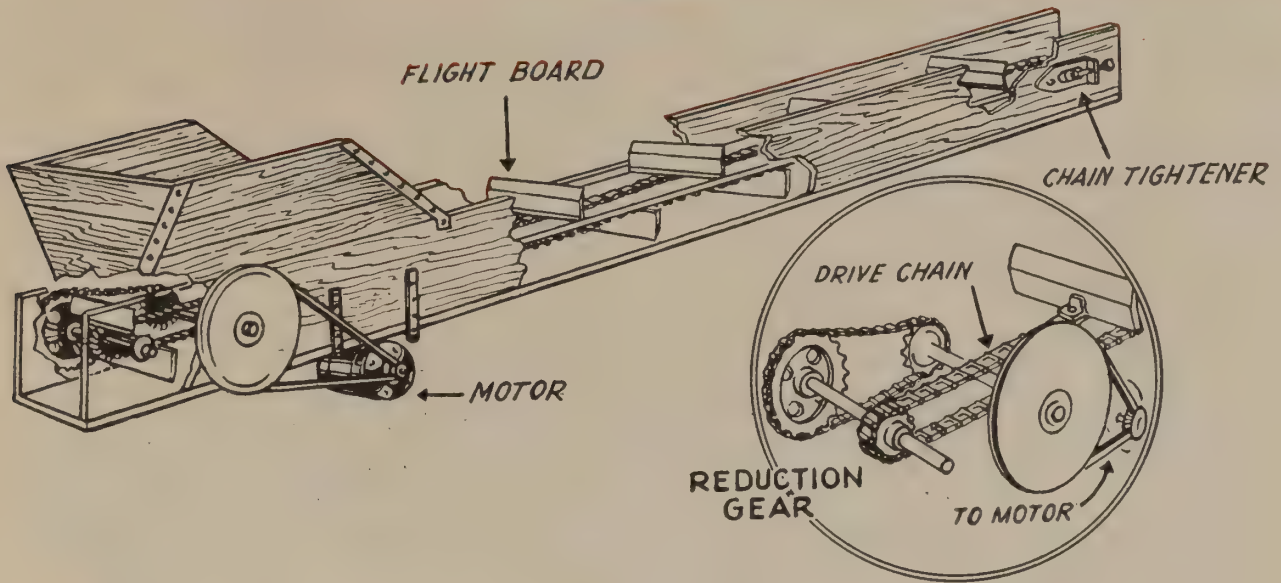
You will note that this sack holder is on casters so that the sacked grain doesn't have to be carried.

If you have a hand truck (No. 2) such as is used in feed mills, you can make a good combination sack holder and hauler. The strap iron ring to hold the top of the sack can be bolted to the handles. Use wing nuts if you want to remove the holder and use the truck for other purposes. You can rivet hooks to the ring to hold the sack while filling or use spring clips to hold it.

A movable rack or box for holding empty sacks will help keep them in better shape and be another time saver.







## Power Elevator You Can Make Will Save Many Hours of Hand Labor

A SIMPLE inexpensive home-made elevator on farms that have electricity available is frequently the equal to a couple of extra men. Such an elevator is shown in the above sketch, one of a number of similar designs that farmers in many states have found to be easy to make and practical to use.

Simply described, it is a square wooden trough from 12 to 20 or more feet in length as may be needed by the user. Inside this trough, or long box is a travelling chain to which are attached boards (generally called flights) that carry grain, corn, baled hay, stove wood or anything else along with the chain. These flights slide along a partition set lengthwise in the box. The chain is driven by a sprocket at the lower end and rides over a similar sprocket at the top. The top sprocket is adjustable so that a proper tension can be ap-

plied to the chain. Standard connections are available for attaching the flights to the chain. They should be spaced about one foot apart.

A reduction gear or chain arrangement is necessary to reduce the speed of the motor to give the chain a speed of not over 200 feet per minute. This reduction gear and motor are placed at the bottom of the elevator to keep the weight at the bottom for easier handling, although a top drive would be more efficient.

This elevator, designed principally to handle ear corn, can be arranged to handle grain by the addition of a top board to keep the grain from spilling out. The board can be fastened on with barn door hooks for easy removal.

A pair of 12 or 15-inch wheels set at the bottom of the elevator would make it much easier to move to various jobs.





## SOME PRACTICAL WAYS TO SAVE TIME In the Feed Lot

—frequently a new idea or a  
little planning can save a lot of legwork!

**H**OW many hours do you spend in a year in traveling back and forth, with team, truck, or on foot, to feed and water livestock? Most farmers are greatly surprised when they take a pencil and actually figure it out. Time and effort can be saved by planning the farm layout and the handling of feed so that the entire job can be done with the least amount of travel. Answer the following questions and you will find the answers for your farm:

Are the pastures where other than the growing feed is used as near to the farm buildings as possible?

Do you have to go through one or more fenced pastures or feed lots to reach another one?

How many gates do you have to open and close?

Are there a number of small self-feeders scattered around the lots? Do these have to be filled every day or two? Do you have to carry feed to them by hand? How far do you carry it?

How many gates do you open and shut to reach all the feeders?

Do you carry water in pails? Must you cross a fence to reach a water trough?



Millions of work hours are wasted on American farms because things are done the hard way simply because it's natural to follow an established routine or habit and to be so close to a daily job that only the details are seen—and the true picture of the whole operation is missed entirely.

This Sinclair book can only skim the surface of the subject of Time Savers, but the careful study of each of the above questions may show the way for many farmers to save many hours of unnecessary labor.

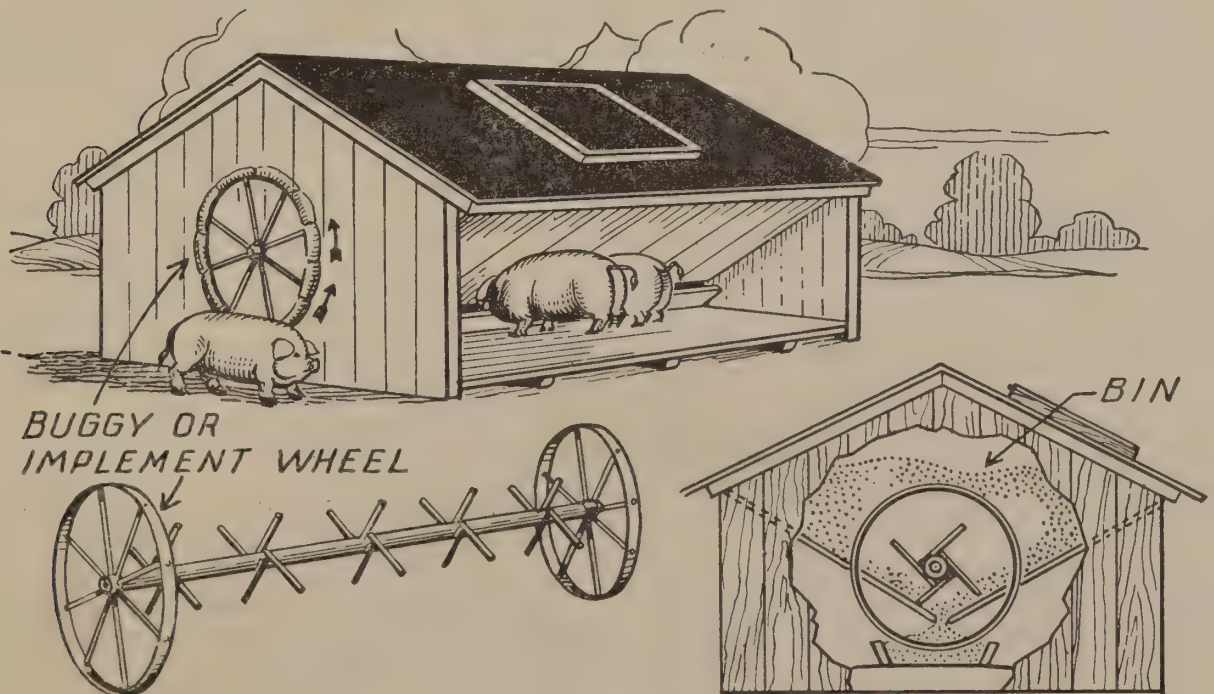
## Hogs Do Part of the Work!

A NORTHWEST farmer has found a way to use hog-power to keep feed running freely in a field self-feeder. It is a large 12x12-foot

feeder holding about 225 bushels with wide overhanging eaves to provide wet weather shelter. To serve as an agitator so that the feed will be worked down into the troughs, a steel shaft to which long teeth or rods have been welded runs through the length of the feeder's hopper. At each end of the shaft and outside the building is an old cultivator wheel.

When the feeder is in use, oil-soaked sacks are wrapped around the rim of the wheels, the pigs rub their backs on the sacks, the wheels turn, and the agitator keeps the troughs filled with feed.

So that this large feeder serves both ground or whole grain and the protein and mineral concentrate which you may wish to feed, the compartment at one end is partitioned off for the protein-mineral concentrate. Since this concentrate is inclined to "bridge" even more than grain, it should, of course, have an agitator prong as well as the large grain compartment of the feeder.



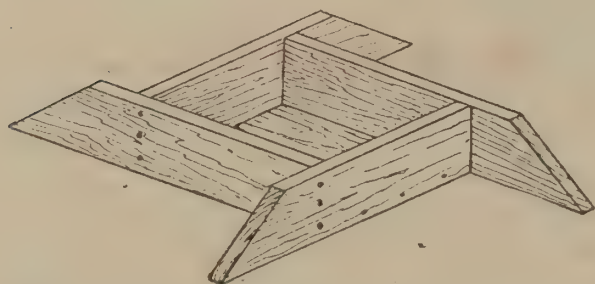


## Feeding Suggestions

**T**O GET a shovel started in a wagon loaded with corn is sometimes a big waste of time because you have to throw off nearly half the load by hand. Place a board about 5 feet long and 1½ feet wide from tail gate to floor before loading the wagon. A cleat nailed to the underside of the board will keep it from slipping down into the wagon.

**A**T TACH an old piece of chain to each end of the self-feeder trough loosely enough so that it can be nosed around by hogs as they eat, then there will be no clogging of the feeder opening.

**M**UCH time can be saved by feeding your cows once a day from an outdoor feeding rack placed near the barn in a sheltered space. This saves hauling from the stack into the haymow, and later moving a forkful at a time into the manger. Self-feeding outdoors also means less barn cleaning.



**A** SALT box that will not be tipped over can be easily made by nailing some boards together as shown in the above sketch.

**T**O SAVE labor several calves can be raised on a hard milking cow to eliminate pail feeding.



## Take Your Job Apart

**D**O YOU know that members of most farm families walk five to 10 miles a day on doing chores alone? What would you think of a man who walked five miles every day for 20 years doing chores when he could easily have arranged things so that he could do the same chores by walking 2½ miles a day? Maybe you are making the same mistake. The only way to find out is to take your job apart and study it. Here are some tips on how to analyze a job:

### Feeding the Calves (one day)

1. Are calf pens grouped so all calves can be fed at or near one spot?
2. Can you build a hay rack so that hay need be fed only once a day, or even less often?
3. Do you have a special fork kept in a handy place, or do you have to hunt all over the barn for one?
4. Where do you keep the feeding pails? How far do you have to walk to rinse them?
5. Do you walk a long ways for calf meal or protein supplement? Would it save time to rig up a feed barrel right near the calf feeding troughs?
6. Do you carry in bedding every day? Or could you arrange to haul it in once a month?



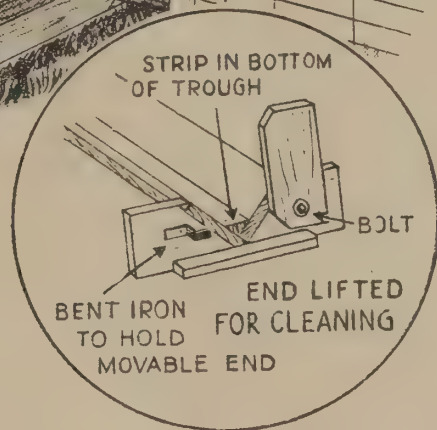
# Feed Through the Fence

## and Save a Lot of Travel



**W**HEN feed and water troughs are so constructed that the lip projects beyond the outside of the fence, the work of filling is much easier. The usual design of such a trough is to have one end under the fence and the trough running at right angles with the fence so that hogs in their usual hurry to get to feed do not pile up at the end of the trough. Another way is to run the trough parallel with the fence line so that the feed may be evenly distributed the full length of the trough. With this method, however, it is more bothersome and slower to fill the trough and extra posts or reinforcing for the fence will be needed.

V-shaped troughs should have a piece set in to make a narrow, flat bottom to prevent packing of the feed which makes cleaning difficult.



### Simple Portable Fence

**M**AKE a number of fence panels about 16 feet long—out of one by fours and woven wire fencing. Set zig-zag like an old-fashioned rail fence and wired together, they make a good guard for that haystack in the field being used for winter pasture. The panels are easily moved and can also be used for pens and snow fences. If you want easier-to-handle “one-man” fence sections, make them 8 feet long, as this cuts evenly out of standard 16-foot length boards.

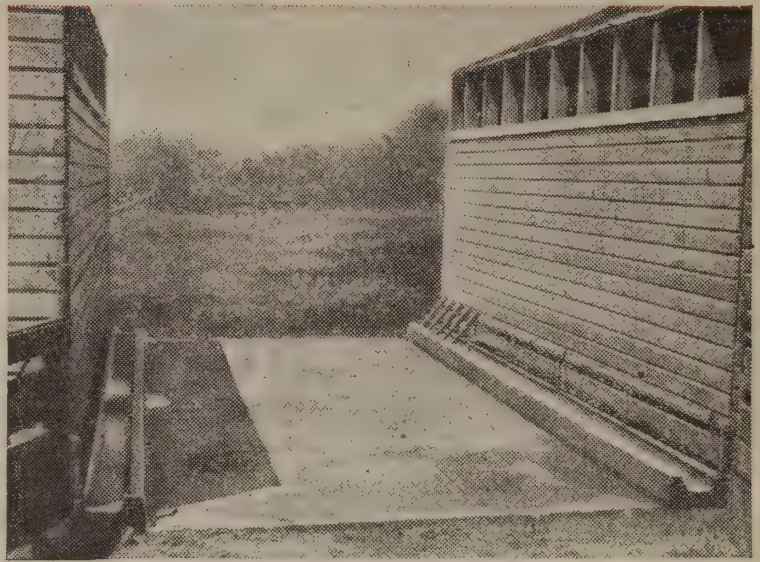


## Corn Crib Converted to Self-Feeders

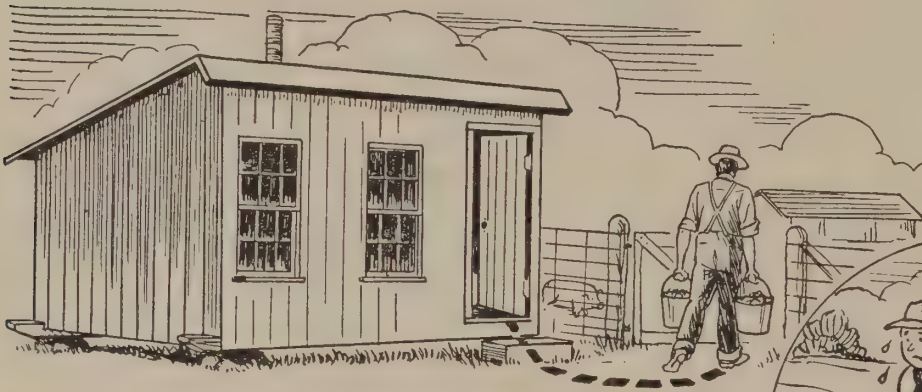
**"ROLLING the feed"**

to hundreds of fattening hogs is easy with this double-compartment self-feeder which holds 1,100 bushels. Each compartment feeds from both sides, providing four 24-foot sections of feeder space on concrete.

Note in the picture at the right a section of the



feeder reserved for the protein mixture.



**WHY  
DO  
THIS?**



## Use Your Brooder House for Field Storage

**U**NUSED brooder houses make excellent feed storage centers for penned animals. Instead of carrying a daily ration two or three hundred feet, or maybe half a mile, move an unused shed or building right next to the pens and haul out a month's supply at one time.

This will not only save a lot of hard work but will assure ample feeding if you depend on others to do it.

**C**ORN may also be "sheeped" down. There is danger of sheep going "off feed" if this is done before the sheep have been on a fairly heavy grain ration for some time. Some feeders who sheep down corn find that a temporary fence may be fastened to cornstalks and that sheep won't knock it down.





## Water

### Some suggestions on better and easier water supply for your livestock

**P**LENTY of fresh drinking water means more beef, pork, milk and eggs—which means that water supply is a very important part of efficient farm operation.

The location of poultry barn waterers and field tanks, as well as the method used to fill them are worth careful study by every farmer. If you have a power-operated pump of ample capacity, you can pipe water to all of them. If you keep field tanks close to a fence, pipes laid close to fence posts will not need to be buried to protect them from animals or machinery. Usually they will also be shaded by grass growth. Drain cocks at each low point make it easy to empty a pipe line without disconnecting any parts of it when freezing weather comes.

If possible, have tanks under shade and on high ground spots to give better drainage if they run

over. This will prevent muddy spots around the tanks. If you wish to move a tank occasionally, you can use a short piece of rubber hose to connect some of the pipes together—saving the need of metal elbows, unions and other fittings and the work of pipe threading and fitting. Standard auto radiator hose, available in many shapes and sizes, and regular metal clamps make a serviceable and flexible connection for large sizes of pipe. Ordinary rubber garden hose can be used on smaller sizes.

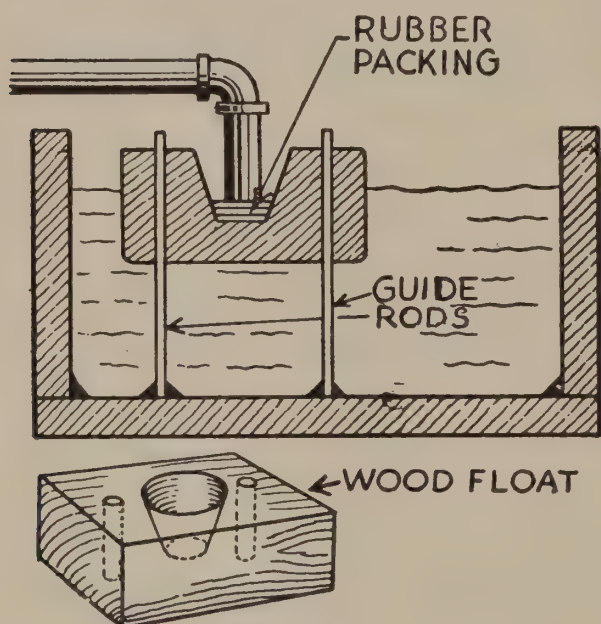


Don't waste your time carrying water by hand. Use a cart if you can't pipe it.



## Self-Filling Trough

**T**HERE are numerous ways of making floats that will keep the tanks filled automatically. The drawing shows an easy one to make for a low pressure water system. To let water run into a tank continuously, with waste running over the sides, causes unnecessary wear on the pump, and means a mud hole around the tank.



## When Your WATER SYSTEM Doesn't Work

**I**T'S almost certain that you forget all about your electric water system as long as the water runs when you turn the faucet. But when the water doesn't run, the most natural thing to do is to call for dealer service. Perhaps you could save considerable time and money by making minor repairs

yourself, or at least trying to find the trouble.

To reduce unnecessary service calls, one of the big manufacturers of water systems suggests checking the following things before you call:

The power may be off. Check to see whether you have power and lights in other parts of the building.

Maybe a fuse has blown or a circuit breaker has tripped out. Check all plugs on the pump circuit.

Perhaps your pressure switch has overload protection. Push in the reset button on switch. If the switch continues to throw the button out, you have an overload condition which must be remedied.

Is the belt off the pulley?

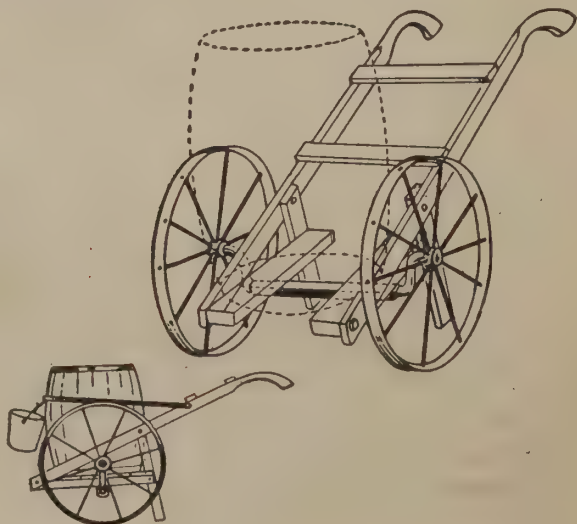
Is there a valve closed between pump and pressure tank, or elsewhere in supply line?

Maybe the water level in the well or other source of supply has dropped beyond pumping distance.

See if it needs oil or priming.

## Water Cart is Handy

**A** SIMPLE barrel cart for hauling water or wet feed is a real convenience. The sketch below will give you all the guide you need to construct one of old materials.







## Tank Wagon Saves Time and Water

A TANK wagon on a general farm, although a piece of equipment which few farmers own, probably will prove to be one of the handiest and most useful pieces of equipment you can own. Moreover, such a wagon encourages having growing pigs and chickens out on clean ground far removed from the disease and parasite-infested soil near the farm buildings.

The 350-gallon tank, shown in picture at left, is mounted on a rebuilt auto chassis and hauled behind the family car or a tractor. Large hose and shut-off valve reduce time in filling tanks. Water is relayed from tanks to regular drinking fountains for the hogs.

ALWAYS repair leaky tanks or pipe connections as soon as you find them. It will save a lot of time later.

## Conserve Natural Water Supply

A FENCED-IN pond, located where it will be refilled from rains is a valuable asset to any livestock farmer.

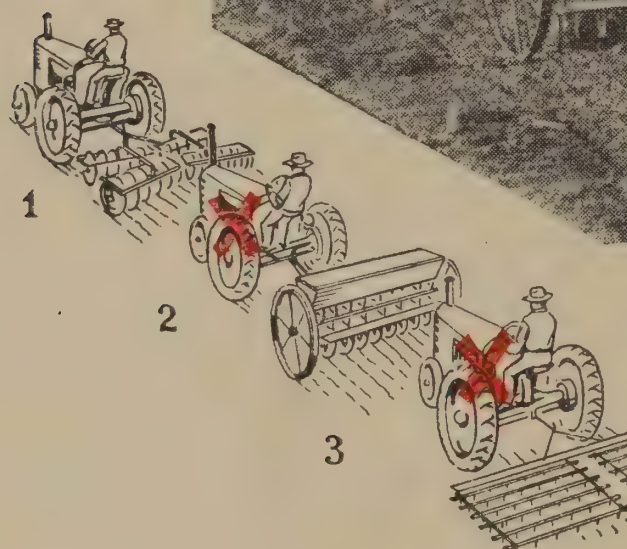
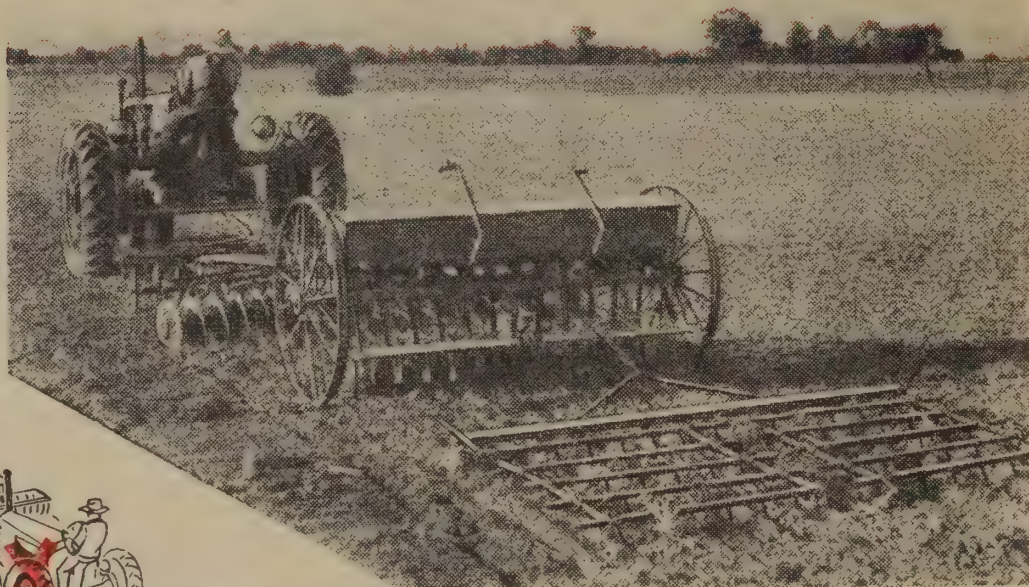
A suitable hollow can generally be found where an earth bank can be scraped up to form a pond. Water can be piped to several places if desired, and an automatic shut-off installed to keep watering tanks full without your attention. Fencing keeps cattle from stirring up mud and otherwise contaminating the water. (Picture at right.)

When planning such a pond be sure that the tanks are low enough to allow the water to flow by gravity. Set the outlet pipe before scraping up the bank to save digging a trench. A screened box on the end of the pipe in the pond will keep weeds out of the pipe.





# Doing 2 or 3 Jobs At One Time



**D**RAWBAR power of a tractor is usually reckoned in terms of the plow bottoms it will pull and so in plowing the tractor is usually exerting its full pulling power. Often, however, it is being operated with an underload when other implements are being pulled.

When drilling grain, for example, a disk can be run in front of the drill thus doing two operations at one time. If grain is being seeded on dry soil, as it would be in some sections of the country, running a disk just ahead of the drill serves not only the purpose of getting the

ground in good condition, but also cuts deeply enough to turn up some moist soil and thus the seed comes in contact with moist soil so that it germinates more rapidly.

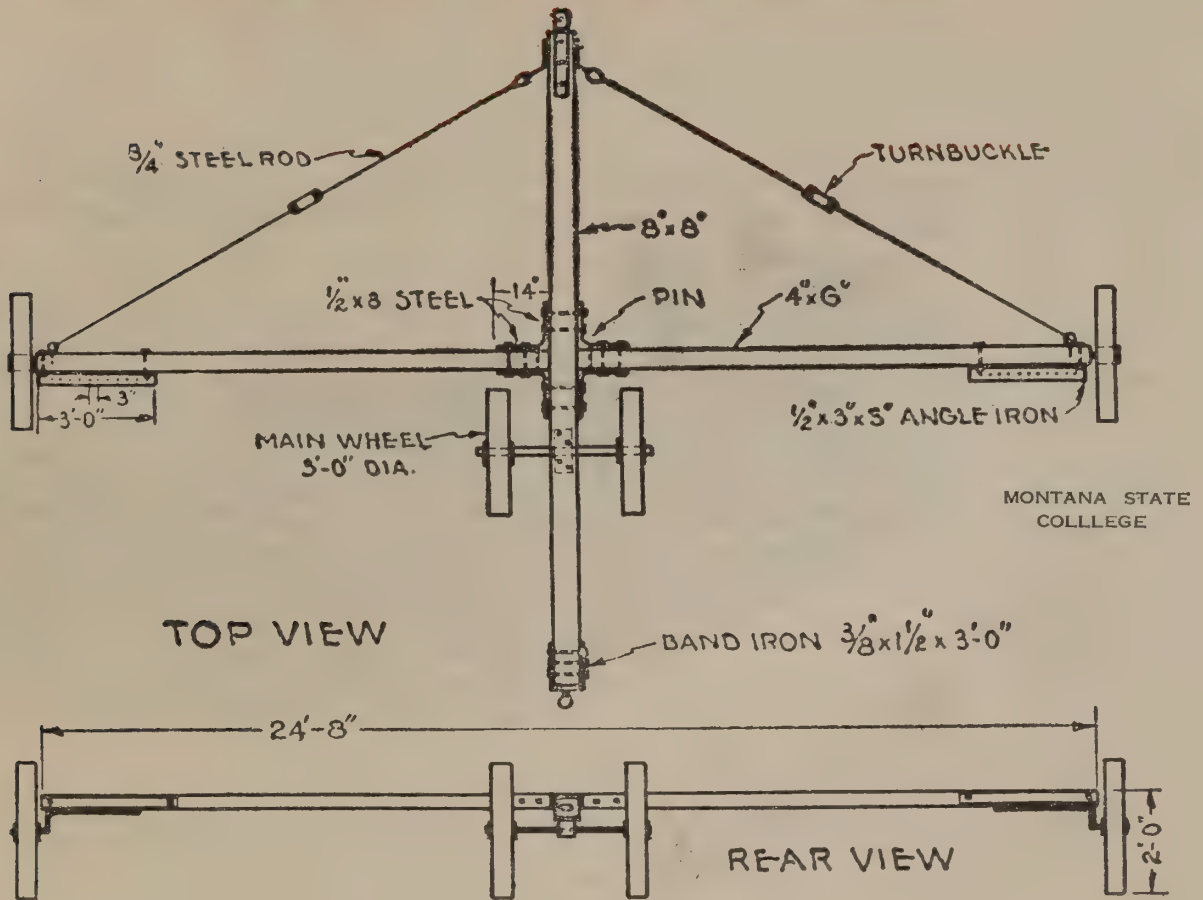
There are many other combinations of jobs that can be done to make full use of the tractor's pulling power. Even if jobs cannot be done in combination, larger jobs can be done.

Although examples cited might not fit your own situation, some study of your field operations doubtless will reveal jobs that can be combined to get fullest use of your tractor's power.

The Engineering Department of your State College of Agriculture or the manufacturer can provide information on both the pulling power of your tractor and the draft required by different machines.



## Simple Hitch for 3 Implements

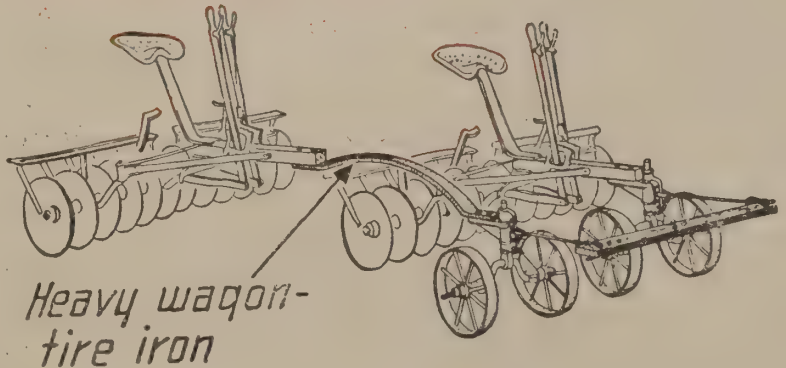


THIS hitch, made of old material, has been proven very practical and successful for tractor use. The sketch is self-explanatory.

Note the 10 hole connection plates at each end for adjustment of drawn implements.

## Two-Implement Hitch

OLD horse-drawn field equipment, considered too small for tractor use, can frequently be doubled up to save a great deal of time. This hitch for two disk harrows is an example. The rear disk overlaps the front one by about one-half. Disks do not need to be the same width, as their pull can be adjusted to equalize on the drawbar.

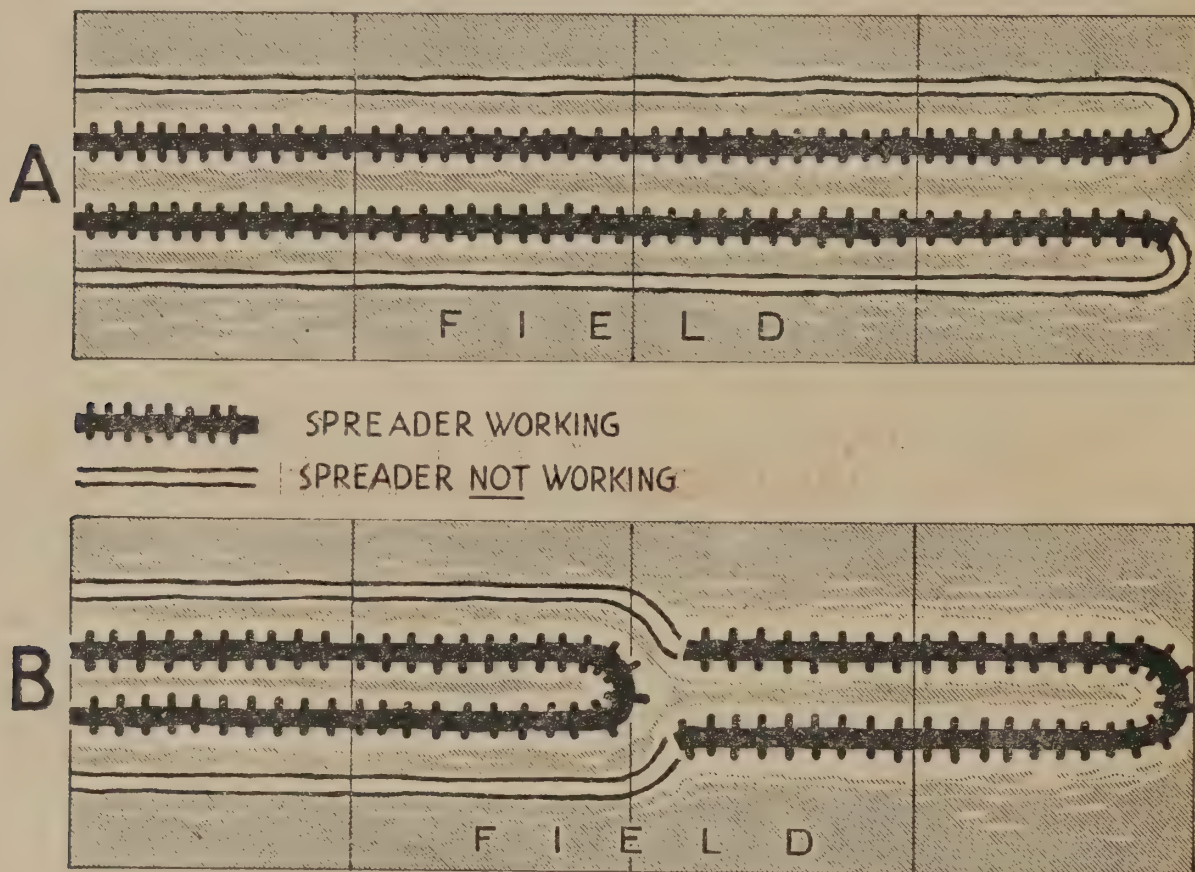




# Saving Tractor Miles

**D**ID you ever stop to think that it is wasteful of horsepower or gas power, whichever you use, to spread manure down the field driving until the spreader is empty

the second half on the way back towards the starting point. Next time you will have to haul the loaded spreader a little farther, but there will be an actual saving in



before turning around to go back home? This method, as shown in diagram "A," requires two complete round trips, equal to four times the length of the field to distribute two loads.

Now look at "B" and note that this method only requires driving three times the length of the field to cover the same area—just far enough to unload half the spreader, turn around and unload

the distance and time spent driving. If you haul 75 or 80 loads on a field, the saving in mileage would mean a lot in time and power cost.

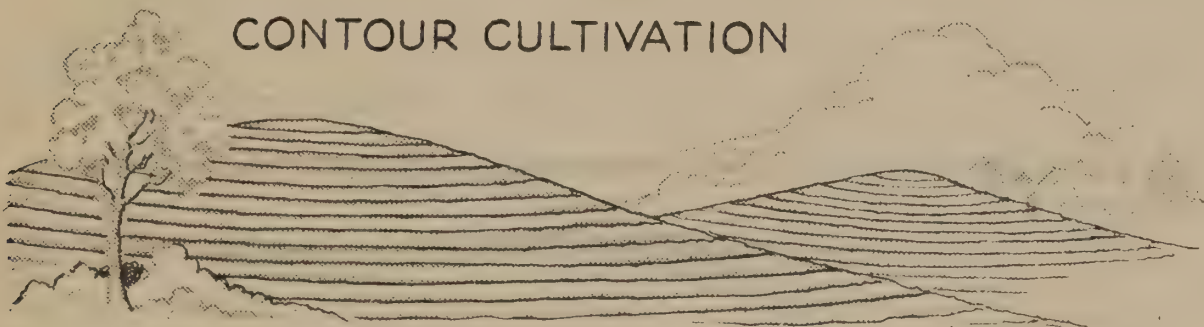
**H**OGGING down corn saves shucking and, if temporary fence is used so that relatively small areas are hogged down at one time, there is little waste of corn.



## OVER THE HILL CULTIVATION



## CONTOUR CULTIVATION



These sketches show in an exaggerated way what contouring means—keeping planted rows as nearly level as possible.

# Why "Contour" Cultivation Pays In Power, Soil and Crop Savings.

WITH the turn of the first furrow of America's rich soil, the subsoil was exposed to erosion. Year by year down through our agricultural history millions of tons of our fine topsoil have been washed off the slopes into the creeks and gullies, thence into rivers, and finally into the sea.

If contour plowing and planting was adopted generally throughout the nation, our farm production would show a tremendous increase without a single extra acre being put under cultivation. There are several simple reasons.

Contour cultivation is simply plowing and planting across the slope of the land instead of in straight up-and-down rows. Contouring amounts to about the same thing as terracing—the formation

### Contour Planting



### Up and down Planting



of level ridges or shelves across the slope of a hill or rise in the land. These level ridges act as a break for rain water and allow it to soak into the ground or flow



gently down hill instead of rushing down to the foot of the slope, washing away the productive topsoil and crops. The ground at the top of the slope thus gets the full benefit of moisture as well as the bottom land. Because seeds and young plants are seldom washed out on contoured hillsides by heavy spring rains the cost and time of much replanting is saved. Retaining the moisture all down the slope greatly increases the total production for crops grow evenly, avoiding that familiar heavy yield at the bottom and sparse or no yield at the top of a slight hill.

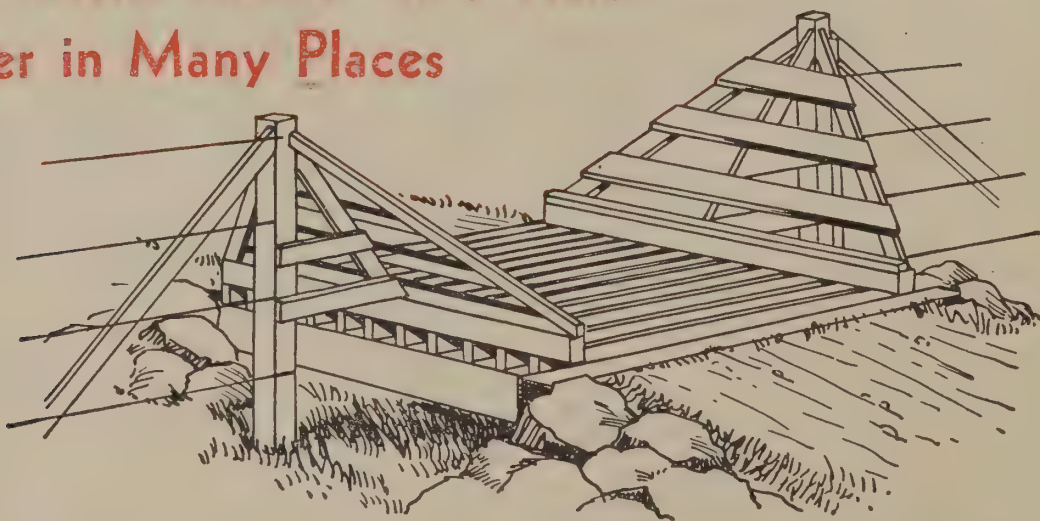
Potato growers have increased crops over 60 per cent by contour planting—corn growers have nearly doubled their yield in this way

and a'll regular field crops, orchards, berry patches, and other plantings on a slope do better.

There are also other important advantages in contour planting. Tractor owners say that the power and fuel savings are nearly a third for the level work in comparison to up and down hill operation. This also speeds up the work saving time in plowing and cultivation, plus all the time that is lost when replanting has to be done because of washouts.

SINCLAIR products have become "farm favorites" simply because their high quality never varies. You can always depend on them.

## A "Cattle Guard" is a Time-saver in Many Places

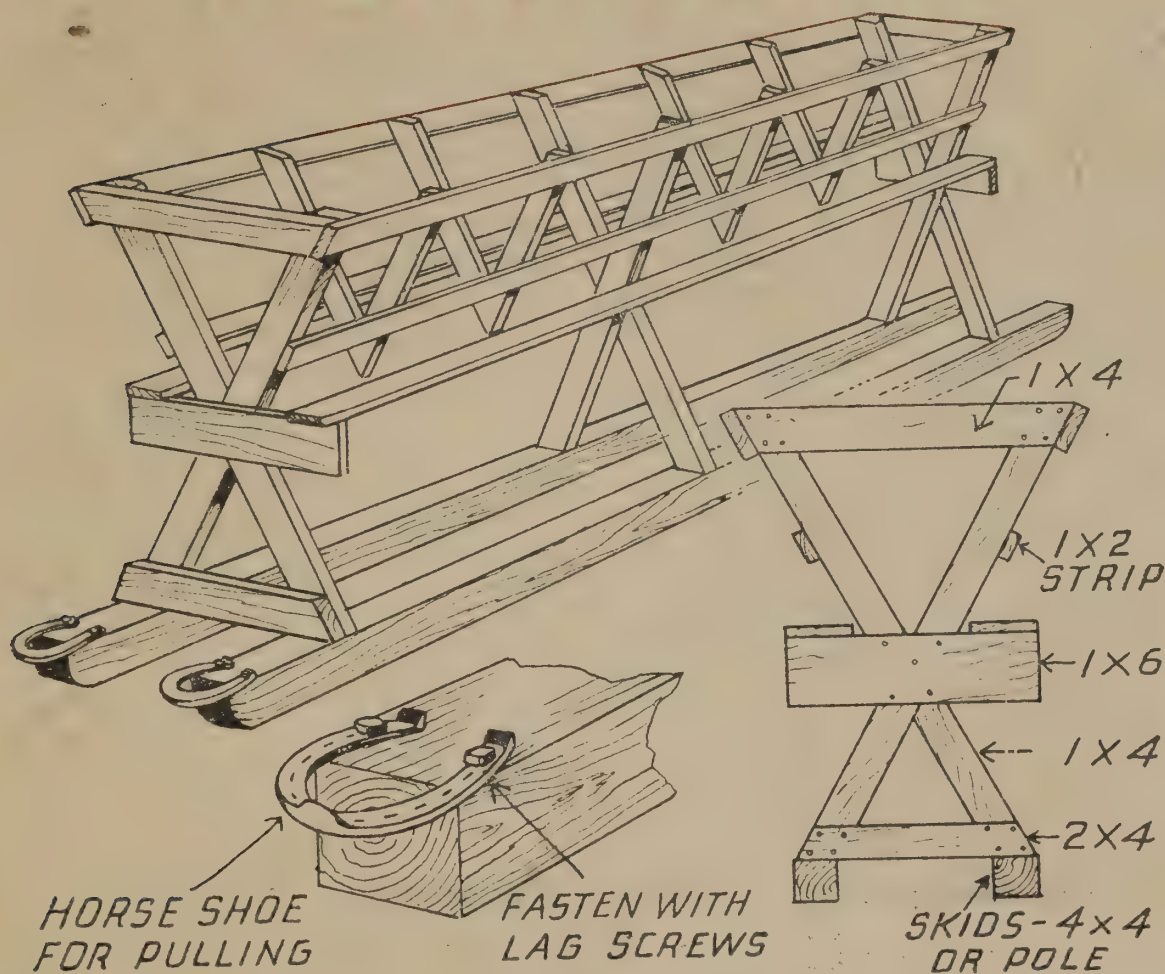


WHEN fields are so arranged that a line or lot fence must be crossed several times a day and a gate opened and closed each time, a cattle guard fence opening will save a lot of time. Of course if you use a team, such an arrangement would not be practical as any

open floor that would stop cattle would also stop your horses. Care must be taken to see that cattle guards are built sufficiently strong to hold a tractor or loaded truck. A regular gate at some other point will be needed to move cattle across the fence line.



# A Good Feed Rack



**T**HIS hay rack on skids can be easily moved to suit your needs. Make up the frames separately, clinching the nails to prevent the pieces from separating. Some farmers fence off a small dry pasture lot, close to the barn and keep their cows there overnight. One or two of these racks are used in the lot. This plan shortens the time of handling the herd and supplies hay to supplement fresh pasture feeding.

**I**F EAR corn is fed to hogs or cattle on pasture, shoveling and hauling of corn may be largely avoided by building a combination

crib and feeder. The crib, of course, must be relatively small to be portable, but it can be built to hold up to 200 bushels. It is necessary to clean the cobs out of the troughs only about once a day and to see to it at that time the corn is feeding into the troughs.

**T**HE busy farmer can no longer afford to hand-feed growing or fattening hogs. It is better to self-feed them in feeders with capacity enough to hold a whole load of grain. That means a capacity of 200 bushels for a truck or 75 bushels for a wagon.



# DAIRYING CAN BE MADE EASIER TOO!

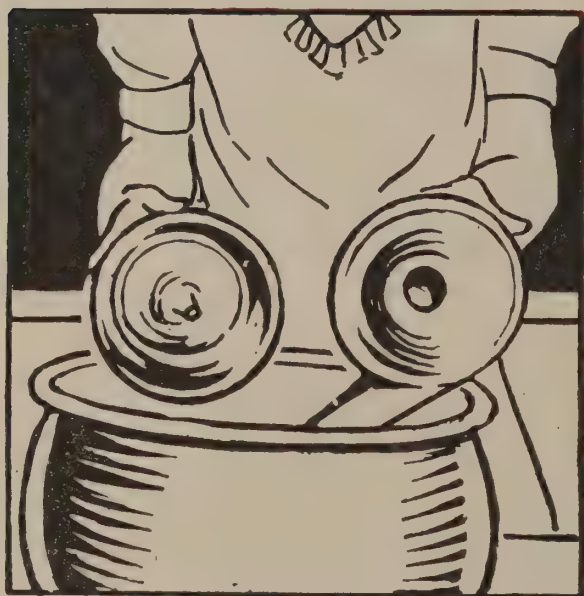
**D**AIRY farmers can find many Farm Work Simplification short cuts by really thinking about the way they now do things. Check up and see if your milk handling equipment and supplies are located and arranged in the most convenient way. Could your cooling tank and its water supply be improved to save many precious minutes each day by making a few alterations? A little study may suggest many time and work savers. On the following pages Sinclair brings you two important and widely proven time savers that

you should try—a method of faster milking, and the remarkable new kind of cleanser for separators and milk utensils.

## MILK THE PROBLEM COWS LAST

In nearly every herd there are cows that let down their milk slowly, particularly in advanced lactation. Shifting these problem cows to the end of the line and milking them last makes it possible to milk the rest of the herd rapidly and with few delays.

## The 2 Minute Method of Washing Cream Separators



Dismantle machine. Place parts in supply tank.

**C**HEMISTRY and modern methods have rescued another daily task from the list of time consuming tiresome jobs.

An entirely different kind of washing powder, technically known as a hydrophylic detergent and commonly called a Wetting Agent, has been found to be a perfect cleanser for any utensil used for milk or butterfat.

By chemical action it breaks down the "skin" of a drop of water so that it can wet the surface of milk curd and absorb the grease into the water. The action of the wetting agent is to remove every



trace of film or deposit from the utensil's surface so that one or two rinsings leave it hygienically



Pour in pail of water, 120 degrees F. While this goes through separator, use soft brush on supply tank and outside of cream and milk spouts. Pour same water into dish-pan.



If disks are not clean, set in water; run brush through hole, pumping water between disks. Shake disks apart for inspection; place in supply tank. The soft brush will cleanse rest of bowl parts.



After all parts are in supply can, pour a kettle of boiling water over them, drain and allow to dry.

clean. Regular soap powders and many "special preparations" leave a film of their own that is difficult or impossible to rinse off. Use a "wetting agent" ★ for washing all milk cans, pails, etc.

## In Case of the Power Stopping

THERE are various methods employed on many dairy farms to meet that occasional problem of keeping the electrically operated milking machine working when line trouble develops. One method used by several farmers consists of inserting a stall cock in the intake manifold of any car, truck or tractor. A hose connection is then made between this stall cock on the manifold and the milking machine pipe line. This method seems to work for all milking machines that are operated entirely by vacuum.

★ The best known wetting agents are sold at most grocery stores. Others are usually available at creameries.

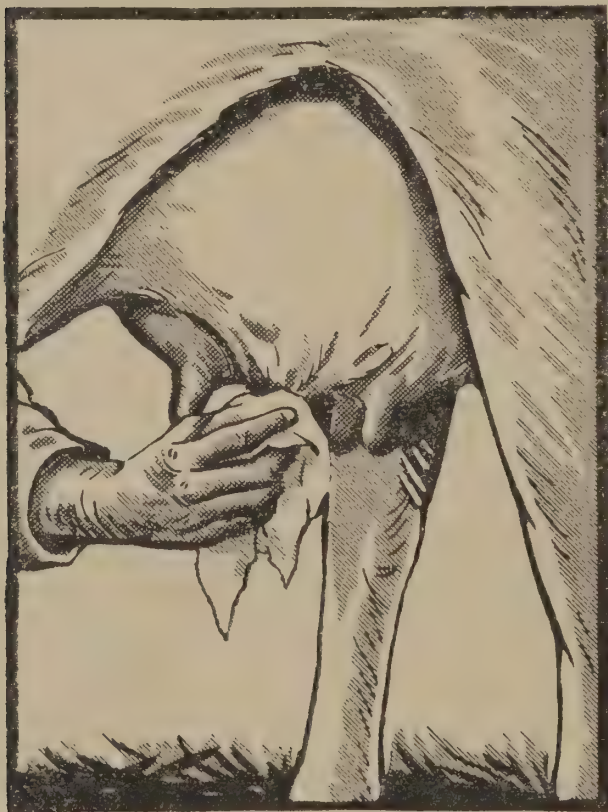


# You Can Cut Milking Time In Half This New Way

## APPLIES TO BOTH HAND AND MACHINE MILKING

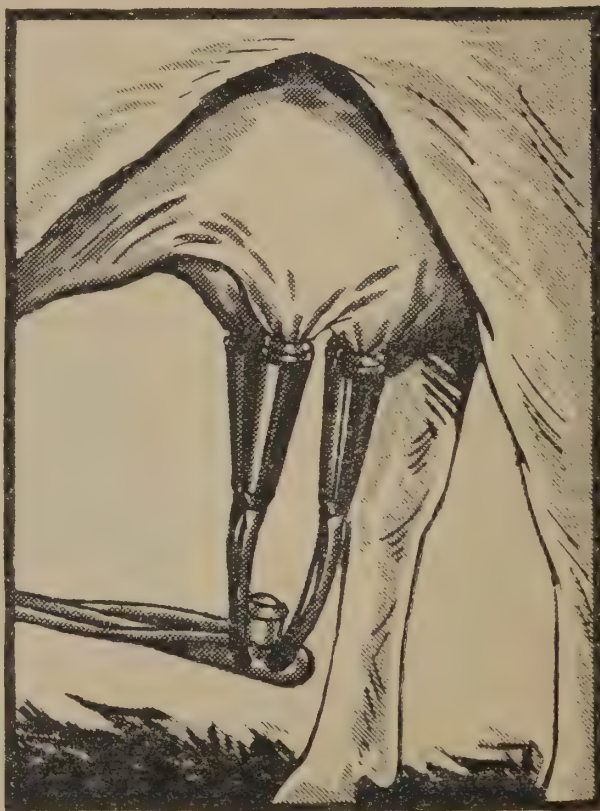
ONE of the most important results of the wide study of Farm Work Simplification is a new way of doing the commonplace job of milking. By udder massage and by washing the udder with warm water immediately preceding milking, the time required to milk is reduced by one-half or more, the incidence of mastitis is

reduced, and milk production continues high or higher than under old milking methods. There is nothing magical or complicated about it and it applies to BOTH hand and machine methods of milking.



### FIRST

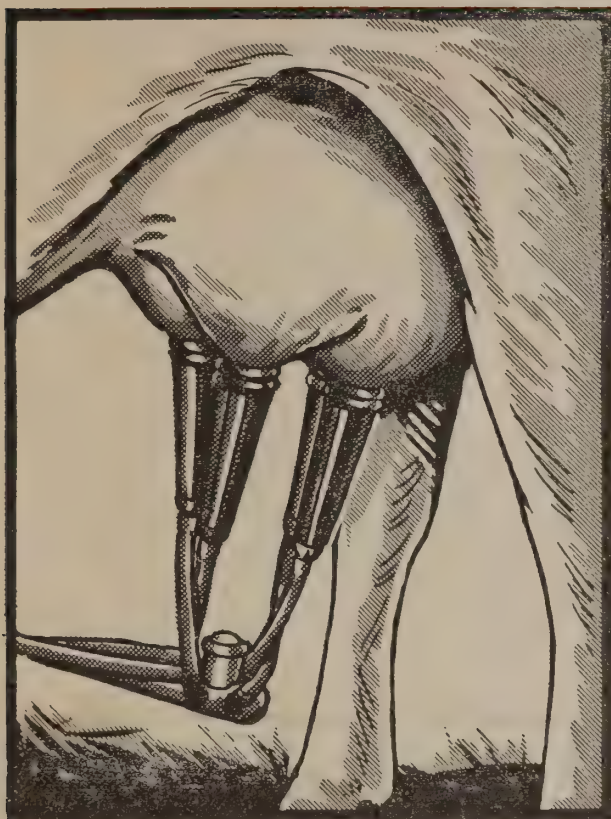
The first operation, whether milking by machine or hand, is to wash the udder with 110-degree temperature water that contains an antiseptic solution.



### SECOND

Then wash and massage the udder and teats and start milking within 45 seconds or a minute thereafter. Such washing and massaging cause muscular contraction which squeezes milk out of tiny udder cells down into the cisterns just above the teats and into the teats themselves.





### THIRD

When milking by machine don't let teat cups crawl as they sometimes do when milking is almost completed and the udder and teats become soft and flabby. The cups, if allowed to crawl too high, will squeeze the teat ducts at the point where they join the udder proper and thus shut off the milk flow. Some milk is therefore left in the udder and must be taken out by hand stripping.



### FOURTH

To avoid the shutting off action of the teat cups pull them down part way on the teats and with the free hand massage the udder. The milk ducts thus are kept open, and all the milk may be removed by machine.

faster way. A little study will show you how to arrange your supply of hot water, wiping cloths and other supplies to the best advantage and to make greater time savings.

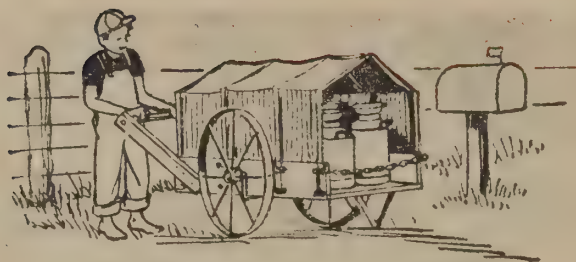
## SPEEDING UP HAND MILKING

The new way grew out of research work by Dr. W. E. Peterson of the College of Agriculture, University of Minnesota, who declares that the cow's udder is the most important production unit in American agriculture. In that unit is manufactured the milk which accounts for one-fifth of the nation's farm income, and what is more important, from it comes the tens of millions of pounds of the nation's most important food. Whether you milk only one cow or a great number it will pay you to try this

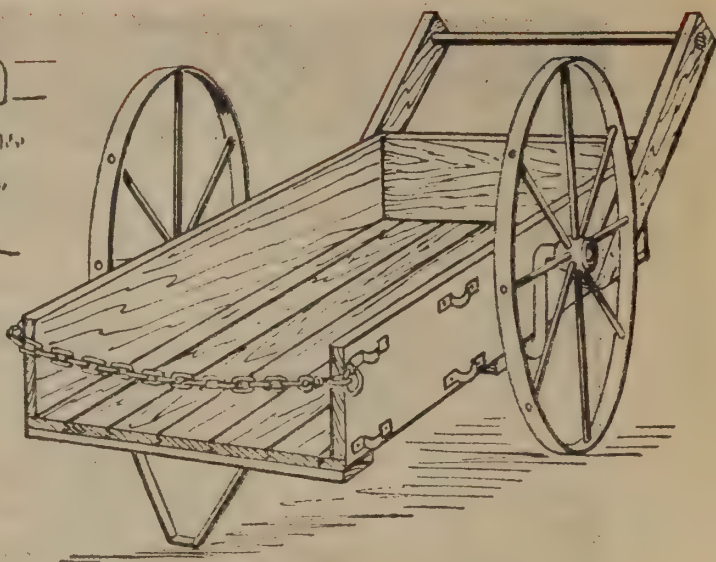
Hand milking itself provides the kind of stimulation necessary to make the cow let down her milk. However, the time required for hand milking would be reduced if this stimulation could be given a little before milking begins. To speed up hand milking, therefore, begin one minute before milking to stimulate the cow by some means such as washing the udder.



## Milk Cart Saves Lifting



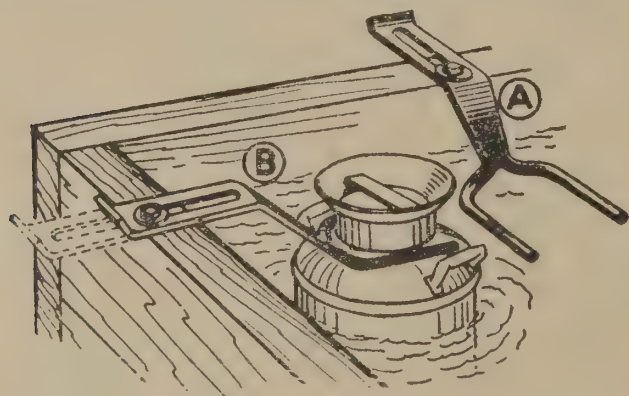
A LOW bed cart with big wheels will save much lifting and carrying of milk cans. The high wheels ride over rough spots easier than small ones and have less tendency to tip over the cans. To protect your cream from the sun, bend some  $\frac{1}{4}$ -inch iron rods to form a frame for a loose canvas cover. Light lumber frames can also be



used if iron is not available. Make the cart narrow enough to go through the milkhouse door.

## To Cool Cream More Quickly

A SIMPLE fork arrangement such as shown in the sketch below will solve the annoying problem of holding an empty milk can down in the cooling tank. The slot at the top where the fork is fastened to the rim of the tank



must be long enough so that the fork ends will clear the can when it is pulled back to position "A." "B" shows it pushed forward to hold the can down. Use a lag

screw with a big heavy washer—leaving it just loose enough for the fork to slide easily. With this arrangement cans can be pre-cooled and filled without removing from the tank, which means quicker cooling and highest quality yield.

Keep the lid on the can. Cream or milk cools just as quickly and there is less danger of dirt getting in.

A HINGED shelf in the milk house or in the barn is handy to keep utensils off the floor and away from poultry at milking time. Make the shelf about 18 inches wide and hinge it to the studs. Cut a couple pieces of chain the right length to support the shelf when it is raised. Releasing the chains will allow the shelf to lay flat against the wall and out of the way when not in use.



# Poultry House Work Savers



**A** DROPPINGS pit, such as this one designed by an Ohio poultryman, serves the purpose of droppings boards and has the further advantage of making it unnecessary to clean beneath the roosts as often as is required when droppings boards are used.

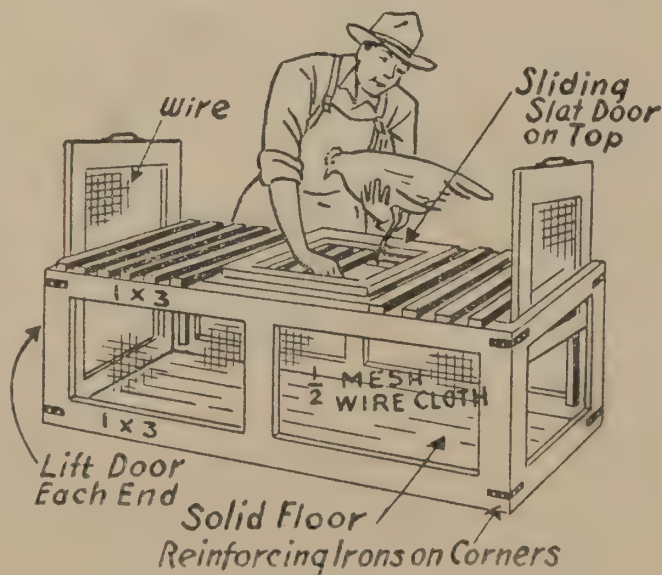
So that the birds don't get their feet on the droppings, poultry wire netting is tacked on the perches

just as it should be with droppings-board construction. The bottom and sides of the pit should be of concrete to make cleaning easier.

**A** FEED room at one end of the laying house or in one corner of the house, if the house is of the large square design, will save steps and time.

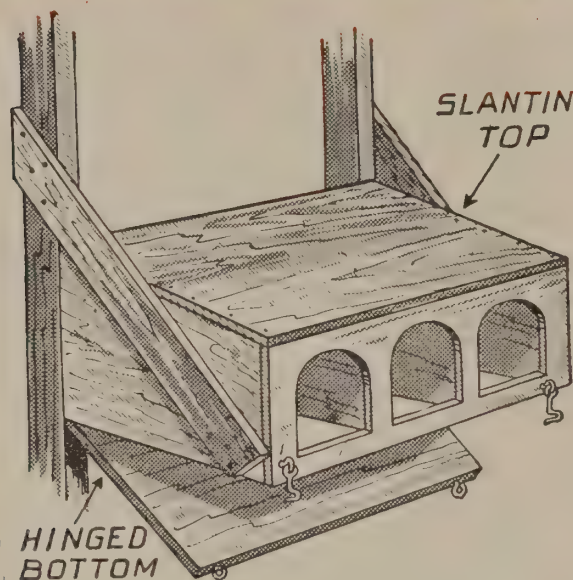
## Catching Crate Saves Time

**A** GOOD catching crate is a handy and time-saving piece of equipment. When you are culling birds, it can be placed at the small grade-line door of the poultry house and the birds run directly into it and then they can be handled one at a time from the outside. It's also a convenient way to transport live birds to market.

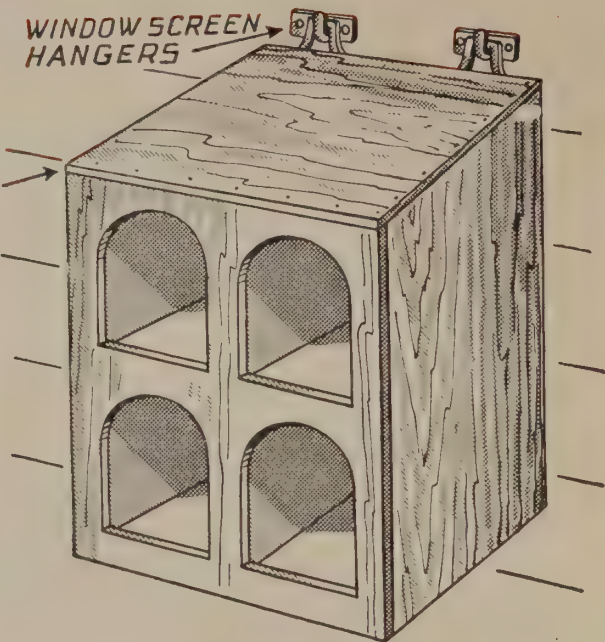




## Easy to Clean Nests



WINDOW SCREEN  
HANGERS



**You can make  
these ... and save  
cleaning time.**

**T**OO often the nesting material is left in nests simply because the nests are difficult to clean. It is for that reason we suggest these easy-to-clean types of nests. For Leghorns, the nests should be 12x12 inches in size, and for heavier breeds, such as Plymouth Rocks, Rhode Islands, and New Hampshire Reds, they should be 12x14 inches. The top should slope to the walls so that the birds can't roost on top of the nest. To avoid hens piling up in nests and thus breaking eggs, provide at least one nest for every five birds

**S**O THAT there will be enough space at feeders, allow at least two lineal inches per bird. Two 4-foot feeders so designed so the birds can eat from either side is enough for 100 birds.



**I**F FEEDERS in the laying house get in your way when you are cleaning the house, suspend them on chains from the ceiling rather than having them on stands where they have to be moved.

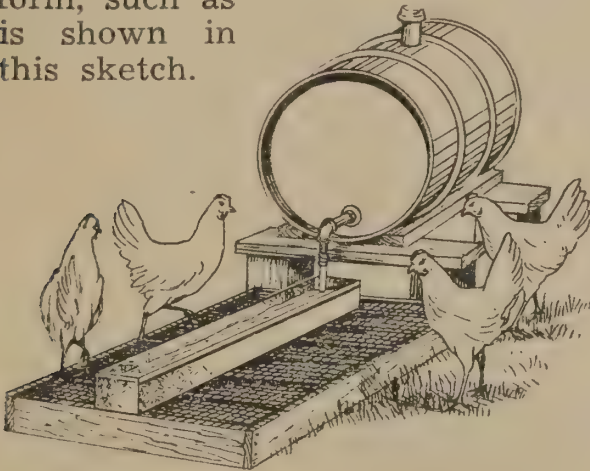
**C**ARRYING feed to birds on range can be made much easier by having range feeders of such size as to make frequent trips unnecessary.

When you buy Sinclair products you are sure of getting the best in quality that your money can purchase.



# "Short Cuts" for Poultry Raisers

MUCH of the dampness of litter in either the brooder or laying house is due to the chicks or chickens slopping water out of their drinking utensils and then this moisture soaking out into the surrounding litter. Partly to avoid this and also to keep the birds away from damp litter, put the drinking utensil on a wire platform, such as is shown in this sketch.



A SUN porch for the brooder house is not only an excellent step-saver during the early part of the brooding season, but it also permits the young birds to get out in the sunshine and keeps them off contaminated ground. It is a step-saver because you can keep the brooder house nearer the other farm buildings or right up near the back door if you wish until the birds have grown enough and it is warm enough to put them out on the range.

DURING early spring brooding when the brooder house temperature is high, there often is insufficient moisture in the air. To increase it, suspend a bucket of water over the brooder with a burlap sack hanging over the edge of the bucket. This sack serves as a wick exposing more wet surface to the air and thus increasing humidity more rapidly.

EGG customers are fussy about the appearance of eggs. A handy gadget for cleaning is one which can be made with a block of wood, about the size of the old wooden blackboard eraser, faced with fine sandpaper. Used in the same manner as a shoe buffer, eggs can be cleaned rapidly.

SELF-FEEDERS follow much the same design as self-feeders for hogs and will serve the purpose.

NOT only are broody hens always underfoot in some flocks during the spring months, but they are also a loss to the flock owner. Hens that become broody once may go back into production soon enough to produce a profitable number of eggs for the year, but those that go broody more than once are unprofitable and ought to be culled. In order to identify these persistently broody hens, put a leg band on them when you first notice that they are broody, then put them in a slat-bottomed coop up off the floor so that the air can circulate around them and feed them as you feed the other birds in the flock. When they get over their broodiness, put them back with the other birds and then if you see a leg-banded hen that is broody, make a stew of it.



# Save Time in Picking Tomatoes, Corn, Tobacco and Similar Crops

## With this Scientific Time-Study Method. 4 Simple Rules.

**W**HEN handwork is required in the harvesting, handling and planting of such crops as tomatoes, corn, tobacco and others... a great deal of time and effort can be saved by simplifying the number of moves made with the hands.

Dr. John W. Cherholtzer, of Purdue University, has made many accurate time studies of such work and proved that increases from 10 to 20 per cent in the work accom-

plished can be made by simply eliminating false movements and wrong methods. This does not mean working faster... just making each move count more.

The following sketches showing the right and wrong way of picking tomatoes give an idea how the careful study of each movement you make is important. The same general idea can be applied to any work done with the hands.

### RULE 1.—Make a Handle for Your Basket



Provide a strong wire handle with a comfortable handpiece for your basket. Use a stiff wire something like the bail on an ordinary pail. Bend hooks on the ends that will take hold and let go quickly.



A



WRONG

B

A—Move the basket along in front of you with an easy one-hand swinging-lifting movement. Raise it only high enough to clear the vines.

B—DON'T grasp the edge of a basket with your fingers or make an arm lift with your back bent.





## Carry with the Handle



**WRONG**

When you lift, keep arm and back straight—lift with your leg muscles. **DON'T** carry a basket by grasping the rim with your fingers—it's slower and tires the hands quickly.

## RULE 2.—Pick With Both Hands



Pick with both hands close together, either bending over or in squatting position. **DON'T** spread your hands out so you can't see both easily. . . . **DON'T** rest one arm on a knee and hold tomato in other. . . . **DON'T** pick with one hand and hold basket with the other.



**DON'T  
DO IT  
THIS  
WAY**





## RULE 3.—Pick Both Hands Full Before Moving Them to Basket



1—First, pick one tomato in each hand.



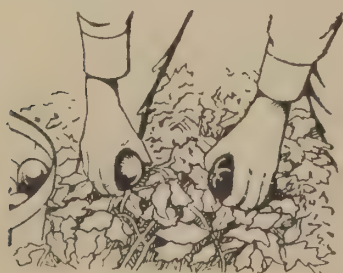
2—Shift them back into the palms of the hands.



3—Pick another tomato in each hand.



4—Move the full hands to the basket.



### DON'T

waste the time or energy to move the hands to the basket with only two tomatoes.



## RULE 4.—Pick 2 Rows Clear to the End of the Field Keep Basket in Front of You



Always keep the basket directly in front of you.



**DON'T** set the basket so that you must twist or turn to reach it . . . or have to stretch or take a step to put tomatoes in it.

This plan enables you to pick 10% to 15% more tomatoes per hour and be less tired!

## Fix Up a Convenient Shop

**P**ROBABLY the best insurance on the farm against costly machinery breakdowns is a **farm shop** that can be made comfortable in winter time. A complete overhaul of all farm equipment every winter is a goal worth shooting at, and that's impossible if you have to work out in the snow. Fit up a shop, put in an old heating stove, bring the tools together in one place, and get set to make good use of your time when the zero winds blow. Be sure to provide a generous number of electric outlets so that you will have ample light for dark days and convenient places to plug in extension cords and electrically operated tools.

Shelves, racks and small bins, built from old wood boxes, will help you keep supplies and odds and ends in orderly arrangement so that you can find things when you need them in a hurry. It is important that the shop be big enough to bring the machine under so that you have a good floor to work on.

**R**UST injures or destroys as much farm machinery as any one thing, but, thanks to war urgency, a new rust preventive—**RUST-O-LENE B** has been developed by Sinclair and is available to farmers. Use it and save your machinery. It's easy to apply and inexpensive. Ask your Sinclair Agent or Route Man.



# Grain Elevator Does Extra Work



THERE are a number of lifting jobs around the farm that can easily be handled with the grain elevator. The picture shows how one farmer uses his elevator to stack baled hay under cover. Most equipments



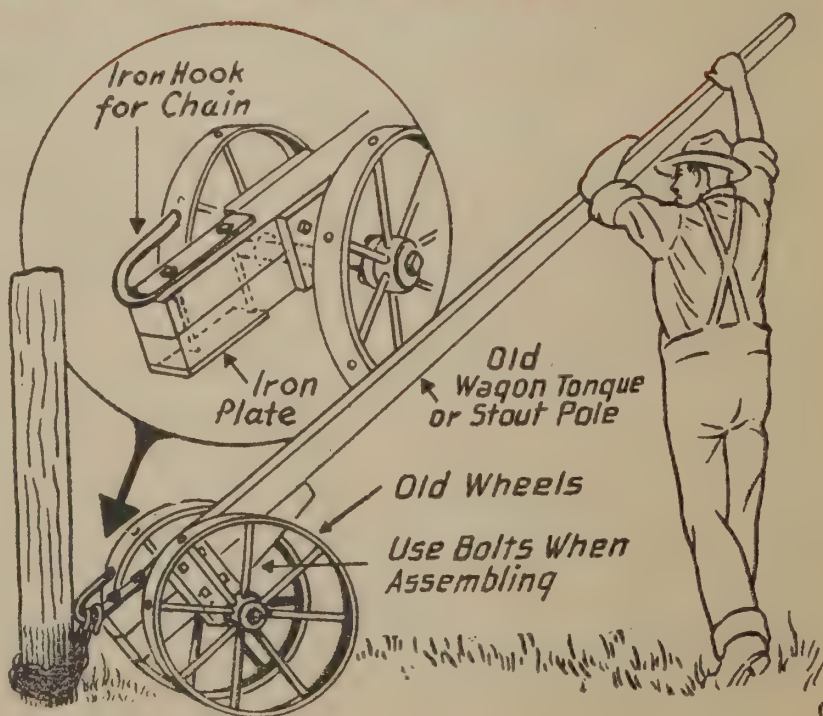
will also handle stove-length wood and filled sacks. To use power to speed work and save manpower wherever possible is good farming.

Remember to get Sinclair Oils and Greases whenever you buy—to be certain of the best quality. Read the last few pages of this book for practical lubrication information and a list of Sinclair products.

## Handy Post Puller

A REAL trouble saver when fences are to be moved. This is the type of puller used by circuses for pulling tent stakes. Build of old materials. Make 2 or 3 loose turns of the chain around the post and let the loop slide down for second and third "bites."

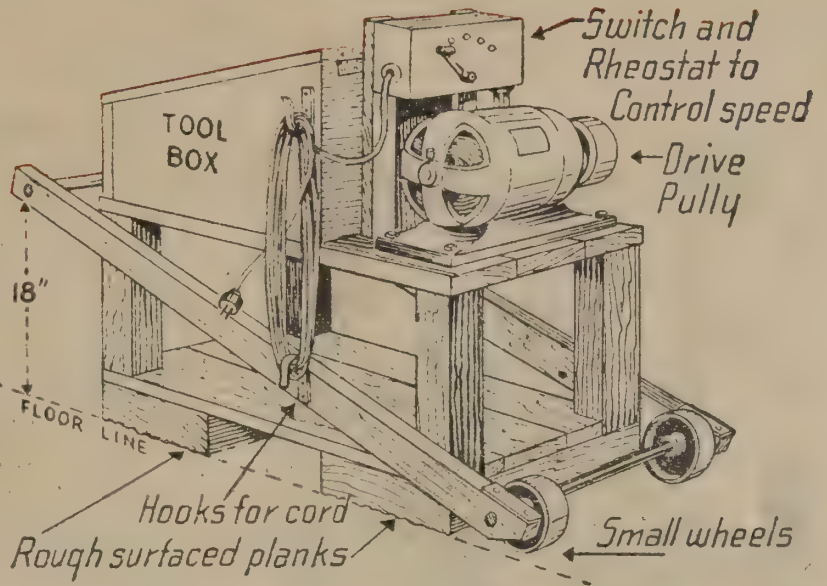
This will pull firmly embedded posts without injuring them. With an extension on the hook end it can also be used as a jack for many purposes.





## "Power Wagon"

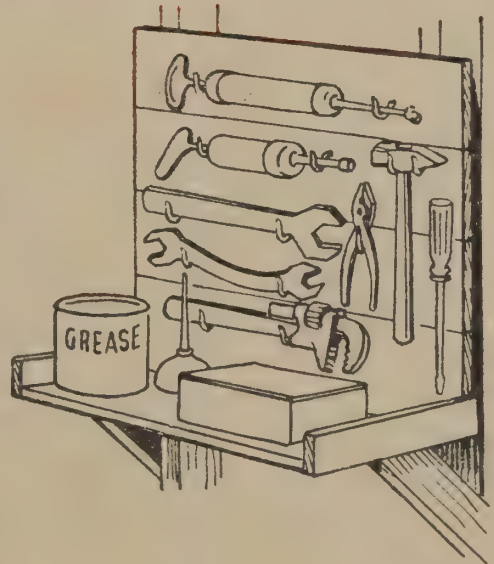
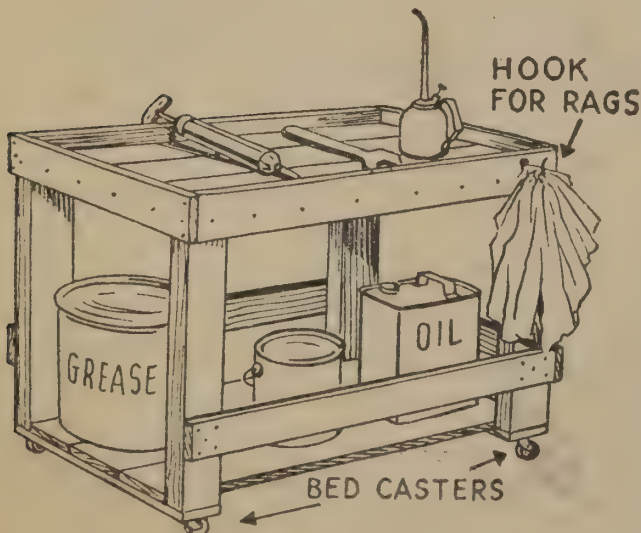
THE ever-increasing use of electricity for farm jobs suggests the need of a portable electric motor that can be easily moved from one machine to another. This mounting will solve the problem. Build a husky table with heavy, rough surfaced planks for a base. Place the small wheels so that they just clear the floor. Using a low handle makes it easier to raise high enough to clear



the floor when moving the table. Use a  $\frac{1}{2}$  to 1 H.P. motor. If your belt has good traction no fastening to the floor should be required.

## Two Greasing Helps

A SIMPLE dolly or table on wheels is a big help when greasing the truck or tractor as you can pull it around with you and keep materials handy and clean.



A rack for your grease guns and tools is another convenience that pays big dividends in time saving.

The sketches show how you can build these from most any old material.



# Time and Work Savers for the Farm Home Maker

**T**HE saving of minutes, which make hours, of time in taking care of daily household tasks is just as important in the farm home as it is out in the fields. The few suggestions offered here by Sinclair may help you and, which is more important, start you to thinking about ways of doing things more easily and more quickly.

## Washing Clothes

1. How do you collect and sort soiled clothes? Could you use a clothes chute? Collection hampers in different parts of the house?

2. How do you heat water? Does your present method call for a great deal of lifting? Is it dangerous in that boiling water might easily be spilled on children, or persons handling the water? Perhaps you should call a conference of the whole family and see what can be done.

3. Do you lug a big heavy basket up and down steps? Or would it be better to have two or three lighter baskets that hold only one washing machine batch at a time?

4. Is your clothesline far away, unhandy? Why not get after dad and the boys to build a new, good one?

5. Do you have a handy bag for the clothes pins?

6. Can you save ironing by folding sheets, towels and other items carefully as you take them down from the line?



7. Can you get the washing and ironing done in a single day (and save sprinkling) by taking clothes off the line while still damp and ironing them immediately?

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Fewer buttons are lost if they are sewed on with an extra piece of the fabric. Fold a small piece into a square and hold it under the wrong side of the garment, sewing through it as the button is sewed on. Do this and save the time required to hunt for buttons and sew them on.

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To save ironing towels, hang them carefully. Fold three or four inches of the towel over the line and put a clothespin in the center as well as at the sides. Not only makes them easy to fold and put away but also saves wear on the corners. Care to hang evenly makes for easier ironing of all flat pieces—sheets, pillow slips, tea towels, etc.

## Save Your Back!

**T**HE height of a woman's kitchen sink and work table is an important factor in her well-being and well-doing. She can't do as much or as good work and feel as well and strong with her sink and table so low that she has to bend over to work, or so high that she has to "reach up," as she would were they the proper height.

As a general rule, the following table of heights of working surfaces will apply. However, each woman ought to find out for herself the height of the table at which she can work most easily and efficiently, and see that her work tables and sink are adjusted accordingly.

### Heights of Working Surfaces

| Heights of Women       | Working Surfaces |
|------------------------|------------------|
| 4 feet 10 inches.....  | 30¾ inches       |
| 5 feet .....           | 31¾ inches       |
| 5 feet 5 inches .....  | 34½ inches       |
| 5 feet 7 inches .....  | 35 inches        |
| 5 feet 10 inches ..... | 37 inches        |

## Step-Saving Idea

**A** WELL-STOCKED repair kit should be a part of the equipment of every household. It should be placed in a convenient location and should contain hammer, screw driver, plane, pliers, awl, oil can, soldering outfit, knife sharpener. It will save a lot of time hunting for such articles when you need them.

1. Keep nothing in the kitchen that is not used every day.

2. Things used most frequently should be most conveniently near at hand.

3. Group utensils and supplies according to the way and order in which they are used.

4. Shelves should be at conven-

ient height and width, none lower than 12 inches, preferably none wider than 4-6 inches.

5. Nothing should be permitted to rest on the floor.

6. Everything in the kitchen should be easy to clean.

7. Fixed equipment should be placed where the light is good.

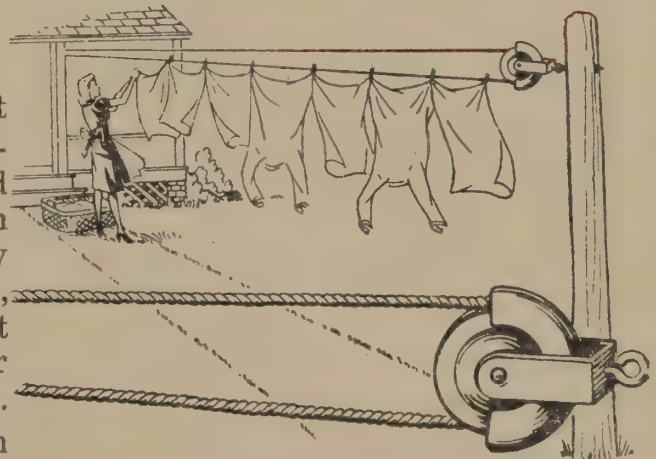
8. Small utensils should be suspended from the hooks and cup hooks fastened to the wall or the edge of shelves.

9. Sink and work table should be at a convenient height for the worker.

10. Have a special place for everything used in the kitchen.

Use Sinclair P.D. Insect Spray around the house to destroy flies and other insects. You can depend upon it.

## Traveling Line Saves Time



**A** CLOTHES line on pulleys, from your back porch or kitchen door to a near-by tree or post, is very handy. Often it is possible to arrange such a line so that you can hang out dish towels and wet garments without going down the steps or off the porch.



# Young Farm Engineers Needed by Uncle Sam

## How Boys and Girls Make a Game of Chores. Save Time and Steps. Be a Better Farmer

**A**N EFFICIENCY engineer is never satisfied with the old way of doing a thing. He is always on the lookout for a better way that will save work, save time, or turn out a better result. This booklet is intended for you as much as for dad and mother. Indeed, you may get more out of it than your parents because you may be the one who takes quickly to the game of finding the most time-saving way of doing a job.

There is something of interest to you on every page of this book. Take the chart on page seven. Of course you may not have your dairy herd lined up this way, or the silo or grain bin may be in a different location, but the idea illustrated can be applied to other arrangements that affect your chores.

The section on how to use your muscles right (pages 46 and 47) to develop them better and get more "mileage" out of them will interest boys and girls especially.

And have you ever noticed how quickly time flies and how much easier a job is when you make a game of it?

But this will be more than a game, for finding quicker and easier ways to do the things you have to do most every day will help you in many ways all through your life.



## How Many Steps Can You Save?

**Y**OU may think that saving a few steps doesn't mean anything to a husky boy or girl. Don't kid yourself about that, because it is extra useless steps that put the drudgery into chores. You want to save those extra steps for other jobs or for play.

The average person covers 30 inches with each step, so if you save 100 steps in doing a daily piece of work, you will have saved 250 feet. When you multiply 250 feet by the number of times the job is done during the month, you begin to see that the "saving" in

steps may be figured in miles. Now that isn't an overstatement because actually you cover many miles in "chore-walking" in a single week.

Now to make a game out of the job, make up a score card on which are listed the individual chore jobs you do. Give yourself a point for every 25 steps of walking you save. When you have done this for a few days, show your chart to your dad and mother and suggest that maybe some of the jobs they do can be done easier, quicker, and with fewer steps.

## Girls Play This Too

Step-saving isn't just a boy's game either. You girls can find ways of cutting out steps in your work. Make up a chart too. If you help your mother take care of chickens, figure out the quickest and easiest way to do it. Give yourself a point for every 25 steps you save. Maybe you can save steps in dishwashing or in other work around the house. Don't forget to give yourself a point for this inside work too. Add up your points at the end of the month and you'll surprise yourself and your mother when you discover that you have saved miles with your new and more efficient way of working.

## Get All the Family Interested

**G**REATEST progress in work-saving will come by harnessing the brains of the entire family. It is more fun too, that way. If there are several children in the family, here is a way to have some

real fun and test your wits:

First of all, make a list of the chores that have to be done regularly on your farm. Next group the jobs so that there is a program for each child. Try to make each set of jobs about the same as to length of time required to do them and also make a fair combination of the easy and hard ones. Another thing to bear in mind is a logical grouping of the jobs in the order in which they should be done.

Here is where the contest starts. Each member takes one of the lists of chores and does them for a week. A week is better than a day for that gives an opportunity to study the jobs and find better ways of doing them. Each one makes a careful record of the time required to do his particular set of chores.

At the end of the week, the jobs are exchanged and the same careful records kept. This is continued until each child has made the complete round and has a record of the time required to do each set of chores. The records are given to father and mother for checking and awarding prizes. There may be a prize for each group of jobs or there may be one for the entire list. That can be worked out as each family thinks best.

Besides the fun and the spice of making a contest of doing the chores, by rotating the jobs in this way, there can be no complaint about having to do the same old jobs over and over again. It gives variety to the day's work and, as the time for the second rotation comes, each one will be more than ever on his toes to make a better record than before.



# Let's Keep Fit, Too!

The most important piece of machinery on the farm is your own body . . . so it is important that you take very good care of it. It cannot be replaced like an old tractor.

Plan your work to save your strength and energy. Avoid sudden and excessive strains. Learn how to use your strength to the best advantage. Don't try to prove how strong or tough you are—you can easily pull a muscle loose or cause serious internal injury.

The following simple rules are important ones to remember and use:

## When You Lift Heavy Things



**WRONG**

Causes unnecessary strain on the back and internal organs.



Bend your knees and keep the weight close to the body. Let your legs do the lifting. Push or pull very heavy loads instead of trying to lift them.

## —and Carry Them

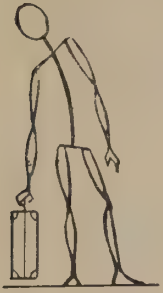


**WRONG**



Carry the load close to your body—it's much easier and safer. Don't carry heavy things when you can use wheels to do it—cart, wheelbarrow or hand truck.

## One Arm Lifts

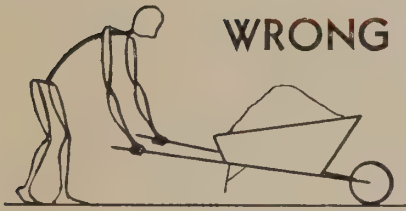


WRONG



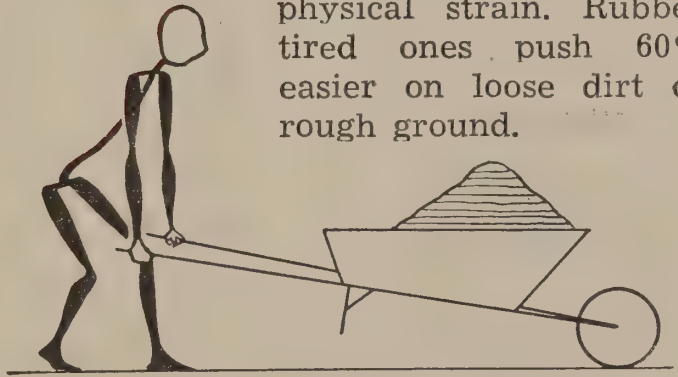
Stand close when you lift with one arm—and hold the other outstretched to help your balance. Never lift with a sudden jerk—arm ligaments are easily pulled loose.

## If You Use a Wheelbarrow



WRONG

Don't lift with back or arms — use your leg muscles, and lift with a slightly forward pull up to start barrow and utilize the motion to help get the load up.



A good, easy running wheelbarrow can be used in countless ways to save physical strain. Rubber tired ones push 60% easier on loose dirt or rough ground.

## Balance Saves Strength

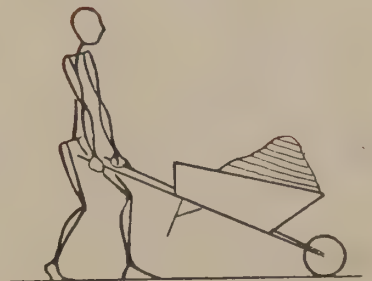


WRONG



B

The wheel is supposed to carry most of the load—not you. Keep your load well forward as in “B” so that when lifted for pushing, the most of the weight goes to the wheel.





BREEDER'S CALENDAR

Periods of pregnancy for various farm Animals

| Date<br>of<br>Service | Mares<br>340<br>Days | Cows<br>283<br>Days | Ewes<br>150<br>Days | Sows<br>112<br>Days |
|-----------------------|----------------------|---------------------|---------------------|---------------------|
| Jan... 1              | Dec... 6             | Oct... 10           | May... 30           | April... 22         |
| " 6                   | " 11                 | " 15                | June... 4           | " 27                |
| " 11                  | " 16                 | " 20                | " 9                 | May... 2            |
| " 16                  | " 21                 | " 25                | " 14                | " 7                 |
| " 21                  | " 26                 | " 30                | " 19                | " 12                |
| Jan... 26             | Dec... 31            | Nov... 4            | June... 24          | May... 17           |
| " 31                  | Jan... 5             | " 9                 | " 29                | " 22                |
| Feb... 5              | " 10                 | " 14                | July... 4           | " 27                |
| " 10                  | " 15                 | " 19                | " 9                 | June... 1           |
| " 15                  | " 20                 | " 24                | " 14                | " 6                 |
| Feb... 20             | Jan... 25            | Nov... 29           | July... 19          | June... 11          |
| " 25                  | " 30                 | Dec... 4            | " 24                | " 16                |
| Mar... 2              | Feb... 4             | " 9                 | " 29                | " 21                |
| " 7                   | " 9                  | " 14                | Aug... 3            | " 26                |
| " 12                  | " 14                 | " 19                | " 8                 | July... 1           |
| Mar... 17             | Feb... 19            | Dec... 24           | Aug... 13           | July... 6           |
| " 22                  | " 24                 | " 29                | " 18                | " 11                |
| " 27                  | Mar... 1             | Jan... 3            | " 23                | " 16                |
| April... 1            | " 6                  | " 8                 | " 28                | " 21                |
| " 6                   | " 11                 | " 13                | Sept... 2           | " 26                |
| April... 11           | Mar... 16            | Jan... 18           | Sept... 7           | July... 31          |
| " 16                  | " 21                 | " 23                | " 12                | Aug... 5            |
| " 21                  | " 26                 | " 28                | " 17                | " 10                |
| " 26                  | " 31                 | Feb... 2            | " 22                | " 15                |
| May... 1              | April... 5           | " 7                 | " 27                | " 20                |
| May... 6              | April... 10          | Feb... 12           | Oct... 2            | Aug... 25           |
| " 11                  | " 15                 | " 17                | " 7                 | " 30                |
| " 16                  | " 20                 | " 22                | " 12                | Sept... 4           |
| " 21                  | " 25                 | " 27                | " 17                | " 9                 |
| " 26                  | " 30                 | Mar... 4            | " 22                | " 14                |
| May... 31             | May... 5             | Mar... 9            | Oct... 27           | Sept... 19          |
| June... 5             | " 10                 | " 14                | Nov... 1            | " 24                |
| " 10                  | " 15                 | " 19                | " 6                 | " 29                |
| " 15                  | " 20                 | " 24                | " 11                | Oct... 4            |
| " 20                  | " 25                 | " 29                | " 16                | " 9                 |
| June... 25            | May... 30            | April... 3          | Nov... 21           | Oct... 14           |
| " 30                  | June... 4            | " 8                 | " 26                | " 19                |
| July... 5             | " 9                  | " 13                | Dec... 1            | " 24                |
| " 10                  | " 14                 | " 18                | " 6                 | " 29                |
| " 15                  | " 19                 | " 23                | " 11                | Nov... 3            |
| July... 20            | June... 24           | April... 28         | Dec... 16           | Nov... 8            |
| " 25                  | " 29                 | May... 3            | " 21                | " 13                |
| " 30                  | July... 4            | " 8                 | " 26                | " 18                |
| Aug... 4              | " 9                  | " 13                | " 31                | " 23                |
| " 9                   | " 14                 | " 18                | Jan... 5            | " 28                |
| Aug... 14             | July... 19           | May... 23           | Jan... 10           | Dec... 3            |
| " 19                  | " 24                 | " 28                | " 15                | " 8                 |
| " 24                  | " 29                 | June... 2           | " 20                | " 13                |
| " 29                  | Aug... 3             | " 7                 | " 25                | " 18                |
| Sept... 3             | " 8                  | " 12                | " 30                | " 23                |
| Sept... 8             | Aug... 13            | June... 17          | Feb... 4            | Dec... 28           |
| " 13                  | " 18                 | " 22                | " 9                 | Jan... 2            |
| " 18                  | " 23                 | " 27                | " 14                | " 7                 |
| " 23                  | " 28                 | July... 2           | " 19                | " 12                |
| " 28                  | Sept... 2            | " 7                 | " 24                | " 17                |
| Oct... 3              | Sept... 7            | July... 12          | Mar... 1            | Jan... 22           |
| " 8                   | " 12                 | " 17                | " 6                 | " 27                |
| " 13                  | " 17                 | " 22                | " 11                | Feb... 1            |
| " 18                  | " 22                 | " 27                | " 16                | " 6                 |
| " 23                  | " 27                 | Aug... 1            | " 21                | " 11                |
| Oct... 28             | Oct... 2             | Aug... 6            | Mar... 26           | Feb... 16           |
| Nov... 2              | " 7                  | " 11                | " 31                | " 21                |
| " 7                   | " 12                 | " 16                | April... 5          | " 26                |
| " 12                  | " 17                 | " 21                | " 10                | Mar... 3            |
| " 17                  | " 22                 | " 26                | " 15                | " 8                 |
| Nov... 22             | Oct... 27            | Aug... 31           | April... 20         | Mar... 13           |
| " 27                  | Nov... 1             | Sept... 5           | " 25                | " 18                |
| Dec... 2              | " 6                  | " 10                | " 30                | " 23                |
| " 7                   | " 11                 | " 15                | May... 5            | " 28                |
| " 12                  | " 16                 | " 20                | " 10                | April... 2          |
| Dec... 17             | Nov... 21            | Sept... 25          | May... 15           | April... 7          |
| " 22                  | " 26                 | " 30                | " 20                | " 12                |
| " 27                  | Dec... 1             | Oct... 5            | " 25                | " 17                |
| " 31                  | " 5                  | " 9                 | " 29                | " 21                |

WEIGHTS  
and MEASURES

MEASURES OF LENGTH

|                 |        |
|-----------------|--------|
| 12 Inches.....  | 1 Foot |
| 3 Feet.....     | 1 Yard |
| 5½ Yards.....   | 1 Rod  |
| 320 Rods.....   | 1 Mile |
| 5,280 Feet..... | 1 Mile |

MEASURES OF SURFACE

|                      |            |
|----------------------|------------|
| 144 Sq. Inches.....  | 1 Sq. Foot |
| 9 Sq. Feet.....      | 1 Sq. Yard |
| 30¼ Sq. Yards.....   | 1 Sq. Rod  |
| 160 Sq. Rods.....    | 1 Acre     |
| 640 Acres.....       | 1 Sq. Mile |
| 43,560 Sq. Feet..... | 1 Acre     |

MEASURE OF SOLIDARITY

|                         |              |
|-------------------------|--------------|
| 1,728 Cubic Inches...   | 1 Cubic Foot |
| 27 Cubic Feet....       | 1 Cubic Yard |
| 231 Cubic Inches...     | 1 Gallon     |
| 2150.42 Cubic Inches... | 1 Bushel     |
| 128 Cubic Feet.....     | 1 Cord       |

GLOBES AND CIRCLES

To find the diameter of a circle multiply circumference by 0.31831.

To find circumference of a circle multiply diameter by 3.1416.

To find area of a circle multiply square of diameter by 0.7854.

To find surface of a ball multiply square of diameter by 3.1416.

To find side of an equal square multiply diameter by 0.8862.

To find cubic inches in a ball multiply cube of diameter by 0.5236.

LIQUID MEASURE

|                       |              |
|-----------------------|--------------|
| 4 Gills.....          | 1 Pint       |
| 2 Pints.....          | 1 Quart      |
| 4 Quarts.....         | 1 Gallon     |
| 231 Cubic Inches..... | 1 Gallon     |
| 7½ Gallons.....       | 1 Cubic Foot |
| 31½ Gallons.....      | 1 Barrel     |
| 54 Gallons.....       | 1 Hogshead   |

DRY MEASURE

|                                                                           |          |
|---------------------------------------------------------------------------|----------|
| 2 Pints.....                                                              | 1 Quart  |
| 8 Quarts.....                                                             | 1 Peck   |
| 4 Pecks.....                                                              | 1 Bushel |
| 1 Bushel contains 2150.42 cubic inches<br>or approximately 1¼ cubic feet. |          |

## MISCELLANEOUS TABLES

196 lbs. flour make 1 bbl.  
 200 lbs. beef or pork make 1 bbl.  
 135 lbs. potatoes make 1 bbl.  
 135 lbs. apples make 1 bbl.  
 280 lbs. salt make 1 bbl.  
 350 lbs. sugar make 1 bbl.  
 100 lbs. nails make a keg.  
 1 gal. water about 8 1-3 lbs.  
 1 gal. milk about 8 3-5 lbs.  
 1 gal. kerosene about 6 1-2 lbs.  
 1 cu. ft. water about 62 1-2 lbs.  
 1-3 in. equals 1 size in measuring boots and shoes.  
 4 in. equals 1 hand in measuring horses.  
 480 lbs. makes 1 bale cotton.  
 A barrel of cement contains 4 cubic feet.  
 42 gal. in 1 barrel oil.  
 1 bushel coal weighs approx. 80 lbs.

## CAPACITY OF A SILO

To find capacity of a silo, multiply one-half the diameter, or one-half the width across, by the same figure, then by 3.1416, and this product by the height of the silo. If the measurements are in feet, this will give the number of cubic feet in the silo. Multiply the number of cubic feet, by 35 (the average number of pounds of silage to the cubic foot) and divide by 2,000 to determine the number of tons.

## SURVEYOR'S LINEAR MEASURE

7.92 Inches..... 1 Link  
 100 Links..... 1 Chain  
 80 Chains..... 1 Mile  
 Gunter's Chain is the unit and is 66 feet long.

## SURVEYOR'S SQUARE MEASURE

10,000 Sq. Links..... 1 Sq. Chain  
 10 Sq. Chains..... 1 Acre  
 10 Chains Sq..... 10 Acres

## LAND MEASURE

To find the number of acres in a body of land, multiply the length by the width (in rods) and divide the product by 160. When the opposite sides are unequal, add them, and take half the sum for the main length or width.

An acre contains 4,840 square yards, or 43,560 square feet. A square acre measures 208.71 feet on each side.

*A quick way to measure height of tree or building . . .* Drive a pole of known length into the ground near the object to be measured. When the length of shadow equals the length of the pole, the height of the tree or building equals the length of its shadow.

*Measuring corn in the crib . . .* Multiply the length, width and height in feet. Then multiply this figure by .45, which will give you approximately the number of bushels in the crib.

*To calculate water capacity . . .* For a rectangular cistern or tank, multiply height, depth and width in feet; then multiply this figure by 7.5. This will give you capacity in gallons of water. If the tank or cistern is circular, multiply the depth in feet by  $\frac{1}{2}$  the diameter squared, also in feet. (That is, if the diameter is 6 feet,  $\frac{1}{2}$  the diameter equals 3 feet, and 3 squared equals 9.) Then multiply this total by 3.14 and multiply by 7.5. This gives you the capacity in gallons.

### Example

How many gallons will a tank 8 feet in diameter by 6 feet deep hold?

$$\begin{aligned}\frac{1}{2} \text{ of } 8 &= 4 \\ 4 \text{ squared} &= 16 \\ 16 \times 6 &= 96. \\ 96 \times 3.14 &= 301.44 \text{ cubic feet} \\ 301.44 \times 7.5 &= 2260.8 \text{ gallons.}\end{aligned}$$

*Weight of Milk and Cream . . .* One gallon of milk at 68° F., and containing 3% butterfat weighs 8.6 lbs. A gallon of cream with 28% butterfat weighs 8.37 lbs. Weight decreases slightly as butterfat increases.

*To measure wood . . .* Multiply the length, height and width in feet together and divide by 128. This gives you the number of cords in the pile.

## INTEREST TABLE

To find the interest on a given sum, for any number of days at any rate of interest:

At 3 per cent, multiply the principal by the number of days and divide by 120  
 At 4 per cent, as above and divide by 90  
 At 5 per cent, as above and divide by 72  
 At 6 per cent, as above and divide by 60  
 At 7 per cent, as above and divide by 52



# Kill Those Flies and Bugs To Protect Your Health

**N**O HOME is a safe living place where there are flies, mosquitoes, bugs and various other insect pests. They carry disease, contaminate food, and are more filthy than is fully realized.

For many years Sinclair Refining Company has made efficient insecticides. The Sinclair Entomological Laboratory in East Chicago, Ind.—called the Sinclair Fly Farm—is one of the most modern and complete testing laboratories of its kind.

Use P. D. Insect Spray to rid your home of insects and kill off the eggs and larvae. It is absolutely harmless to humans and animals and will not stain clothing, wallpaper or curtains. Use as directed.

## HOUSE FLIES



The common house fly is one of the most dangerous pests known. It carries filth and disease germs with it everywhere. To kill flies close windows and doors and spray Sinclair P. D. Spray in an upward

direction. In 10 to 15 minutes the flies will be dead or paralyzed and should be swept up and disposed of.

## MOSQUITOES

The mosquito causes untold discomfort and carries various dangerous diseases ranging from malaria to sleeping sickness. To kill mosquitoes follow same procedure as for flies. Spray sleeping room before retiring and mosquitoes will not be troublesome.



(Note: Sinclair P. D. Insect Spray meets the U. S. Gov't Bureau of Standards Highest Grading [AA] for kill.)



U. S. Gov't Spec. GRADE AA



## BEDBUGS

The bedbug is a loathsome parasite attacking humans and other warm-blooded creatures. To get rid of bedbugs, a complete spraying of springs, slats and other parts of beds and also the mattresses is necessary. Get the insecticide into seams, bindings and tufts. Spray behind baseboards, under window sills, back of mouldings, and under loose wallpaper.

## COCK-ROACHES



The roach is an unclean and destructive pest and is believed to carry germs of many human diseases. To rid rooms of roaches spray Sinclair P. D. into crevices and cracks, also around water pipes and drainboards, and back of radiators and baseboards.

## ANTS



The ant is a very annoying household pest. To get rid of ants, first find where ants have entered or nested. Spray these spots and ant runways liberally and repeatedly with Sinclair P. D. Spray. Regular spraying will drive the pests away. Do not spray P. D. on grass, plants, shrubs, etc.



## COMFORT FOR CATTLE, TOO

keep animals from putting on weight or producing normal quantities of milk. Stable and horn flies biting in large groups may weaken an animal and leave it an easy prey to disease. These pests also transmit diseases. Use of Sinclair Stock Spray repels and kills them.

Sinclair Stock Spray has a pedigreed record for performance. Thousands of stockmen and farmers throughout the country are using it. For best results when applying Sinclair Stock Spray, the animals should be in a stable protected from winds or draughts which will otherwise blow away a large part of the spray.

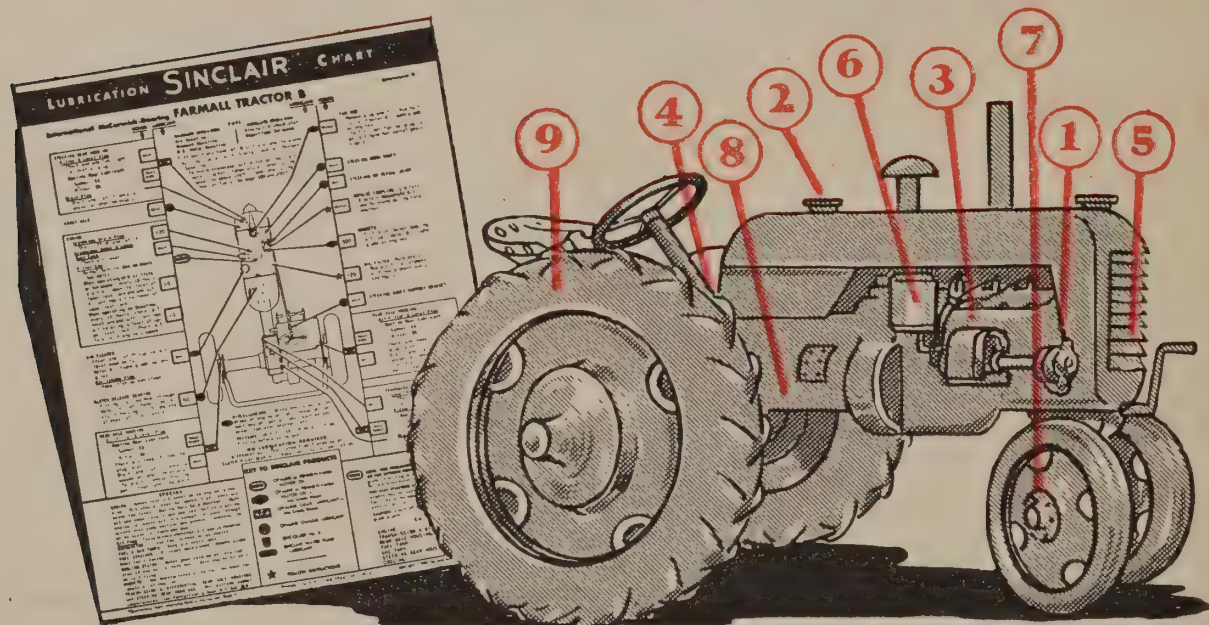
In especially bad fly weather, or in case of rain, it may be desirable to spray cows both morning and evening. Sinclair Stock Spray comes in one or five-gallon cans, or in barrels. It is highly efficient and economical.

Farm experience teaches that attacks of insect pests not only are dangerous to animals but can also reduce their productivity. The stable fly and other bloodsuckers, where numerous, cause great loss to farmers and stockmen. This is especially noticeable in the case of dairy cows. Attacks of the pests cause nervous strain which may



# SINCLAIR FARM OILS LUBRICANTS *and* FUELS

## TRACTOR MAINTENANCE



### Get Sinclair Lubrication Chart for Your Tractor from Your Sinclair Agent

Your tractor is the principal power unit on your farm. It is a strong, dependable machine built for hard work over long hours. But it has many precision parts which need careful attention. The following suggestions are offered to insure long, efficient operation.

#### **1** MOTOR

For safe operation check oil level daily and keep oil up to "full" mark on oil level gauge. In changing oil, drain the crankcase and flush while engine is hot. This

removes sludge and dirt. Refill with correct grade of Sinclair Oil. Follow tractor manufacturer's recommendations on drain periods, servicing of the oil filter and grade of oil for your tractor.

# KEEP YOUR TRACTOR ON THE JOB

## 2 FUEL SYSTEM

For efficient operation your tractor manufacturer recommends a certain type of fuel. Sinclair makes fuels to suit the engine requirements of all tractors. Consult your Sinclair Agent for proper type for your use. In addition to using quality fuel always use clean containers for storage, and keep tractor fuel system clean.

## 3 IGNITION

The battery is the heart of the tractor's ignition system. Check it weekly and keep plates covered with distilled water or clean rainwater. **DO NOT OVERFILL BATTERY.** For top efficiency use type of spark plug (hot or cold) recommended by tractor manufacturer for type of fuel you use.

## 4 POWER DRIVE

Keep all covers to gear housings dust tight. Clutch should be kept properly adjusted so that it does not slip—and so that there is neither too much nor too little pedal action. Keep the transmission (and differential) filled to proper level with the right lubricant. In changing lubricant, drain while hot for more complete draining. Consult your Sinclair Chart for proper grade of lubricant.

## 5 COOLING SYSTEM

An overheated engine means trouble. Keep the radiator filled to correct level. Use clean water only. Keep radiator clean inside and out. Brush off mud, dust, and bugs from radiator grill. See that there are no leaks in ra-

diator, pump, hose and connections. Keep fan belt adjusted so it does not either bind or slip. Use Sinclair Anti-Freeze in cold weather.

## 6 AIR CLEANER

The air cleaner has a very important role in prolonging the life of the tractor engine. It prevents abrasive dust from entering and causing wear on the vital parts. Remove reservoir daily, or oftener under dustier conditions, discard old oil and clean out with gasoline or kerosene. Refill to proper level with correct grade of motor oil.

## 7 WHEELS

Lubricate wheel bearings with Sinclair Sincolube No. 2. Keep wheels lined up and knuckles well lubricated. Follow tractor manufacturer's recommendation on lubricating periods.

## 8 STEERING

Keep steering assembly in proper adjustment for safety and ease of handling. Use Sinclair lubricant indicated on your Sinclair Chart.

## 9 TIRES

Check air pressure weekly. Underinflation causes side wall breaks and gives less protection against damage from sharp stones and sticks. Overinflation decreases pulling power. If water is used in tires, use sufficient Anti-Freeze in cold weather, otherwise sharp corners of ice will cut tubes and also prevent accurate checking of air pressure. Consult your tire dealer.



# STORING YOUR TRACTOR

*Be as particular as you would be with a fine automobile when it comes to housing, cleaning, and protection against the elements.*

*Here are suggestions that will help you store your tractor safely during the winter months:*

- 1.** If possible store in a dry place, where it will be protected from the elements. If left outdoors cover with canvas or building paper.
- 2.** Remove all dirt and grease. Sandpaper or rub with a wire brush all scratches or bare spots to remove rust. Then paint or spray with Sinclair Rust-O-Lene B (see back cover).
- 3.** Tighten and renew all bolts, nuts, and screws that are loose or missing.
- 4.** Drain radiator and engine block. Leave drain cocks open, run engine a few minutes after draining to remove water from pockets. Some feel it is better to protect against freezing by adding sufficient anti-freeze in the radiator.
- 5.** Remove spark plugs and squirt light oil into combustion chamber and on valves. Adjust spark plug gaps to correct spacing and replace.
- 6.** Remove valve cover and clean valve springs and case with stiff brush and solvent. After cleaning, squirt or brush light oil on valve springs, valve stems and rocker arms. Replace cover. If gaskets are bad, renew.
- 7.** Drain and refill crank case with new oil. Run engine a few minutes to circulate oil to all working parts.
- 8.** Check transmission lubricant. If it has not been changed recently, drain, flush and refill with fresh lubricant.
- 9.** Check differential and power take-off. If lubricant has not been changed recently, drain, flush and refill with fresh lubricant.
- 10.** Clean and refill all grease cups, screw down to force old grease and grit from bearings, wipe off excess grease with cloth (never use waste) for cleaning machinery.
- 11.** If Zerk or Alemite fittings, use grease gun to force out old grease and grit, wipe off excess grease with cloth. Always keep your grease gun clean and free from grit.
- 12.** Remove battery and store where it will be protected from freezing weather. The battery should be recharged periodically and kept up to electrical level.
- 13.** Clean air cleaner and refill with new oil. Never use crank case drainings. If water type, drain off water.
- 14.** Plug exhaust pipe and breather openings with clean rags. This will keep out dust, moisture and mud while not in use.
- 15.** Drain the entire fuel system, fuel tank, lines, and carburetor. Leave drain cocks open, but replace fuel tank cap and replace fuel lines.
- 16.** If tractor is equipped with rubber tires, jack it up, or, if this is not possible, increase the air pressure a few pounds, front and rear, to allow for leakage in storage.

# TIME and WORK- SAVER HINTS on LUBRICATION

## CLEANLINESS

It is a worth-while money-saving procedure to keep dust, dirt and other foreign substances out of farm lubricants and fuels. Dust and dirt are abrasive, water is not only corrosive but leads to mechanical breakdown.

To prevent contamination, cleanliness should be exercised in the storage and handling of petroleum products. Containers, grease guns, funnels and other dispensers should be kept covered and out of the weather. It pays to examine them before use to be sure that your oils, greases and fuels are kept clean.

## TIME SAVING

By keeping oils, greases and needed tools together and conveniently placed for use, time and effort are saved when servicing is required.

When machinery is stored in a shed, it is wise to leave sufficient space all around it for ease of inspection and repairs. Provide win-

dow lighting and light extension cord (where possible) of sufficient length to enable you to see what you are doing.

Some farmers have found it a big time saver to build an inexpensive dolly out of second-hand lumber with old casters for wheels. (See Page 41.) On this is placed all the necessary oils, greases and tools for complete lubrication of car, tractor, truck, and other farm machinery. Thus they can be readily moved all around the piece of equipment being lubricated.

Another time saver is a tool board. (See Page 41.) This can be easily built from old lumber of a size to accommodate the various tools and grease guns used. This provides a place for everything and everything in its place. It can prevent misplacement and loss of tools.

Many farmers find it helpful to paint grease guns and tools a bright red to make them readily seen if dropped from equipment in the fields, or dropped on the floor of shed or barn.



# TIME and WORK-SAVER HINTS on LUBRICATION

## BAD WEATHER LUBRICATION PLAN

On those days when it is impossible to work in the fields, many farmers find this time convenient

for lubricating machinery. Their plan is to lubricate, check, and make necessary adjustments or repairs to that piece of equipment needed next, and follow with others in the order in which they may be needed.

## TRUCKS and AUTOMOBILES

Your truck, like your tractor, requires care. Lubrication is of great importance for long service, dependable operation, easy handling and gasoline economy. Neglect to check oil, radiator, battery, and tire pressure at proper intervals may result in "something going wrong" just when the truck is needed most. Your Sinclair Agent has a free lubrication chart and maintenance record for your truck. Ask him for them. They are guides to help make trucks last and keep them in useful service.

No matter whether you drive

your car little or much it needs periodic attention. When driving is limited and speed cut down, many owners believe it unnecessary to change oil as frequently as before. Unfortunate results have proved that to be wrong. Oil needs careful watching, especially if it has been in the crankcase a considerable period and little driving being done.

Your Sinclair Dealer knows when oil change and other servicing is required. It will pay you to have him check your car frequently and do what is needed.



Reg. U. S. Pat. Off.

# FARM MACHINERY MAINTENANCE

Farmers who have treated their machinery as a business proposition, keeping books on operating costs and on returns upon their investment, know that adequate maintenance is one of their best profit makers.

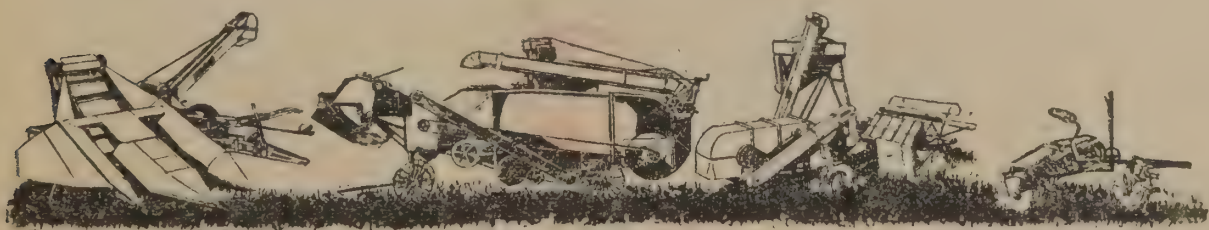
## LUBRICATION

The importance of correct, periodic lubrication of all types of farm equipment cannot be over-emphasized. Life expectancy of the machinery is largely dependent upon lubricants. Proper attention to lubrication may mean as much as 50% increase in the service of life of a machine compared to the life of similar equipment where lubrication has been neglected. Correctly lubricated farm machinery helps the farmer to meet his seasonal schedules. Necessary time given to lubrication pays big dividends in avoidance of breakdowns and delays. So, why not give the harrow,

the binder, the spreader and other machinery the same careful attention that is given to car, truck, and tractor?

## REPAIR AT ONCE

If repairs or adjustments are necessary at the end of the season, it is a wise procedure to have them made before the machinery is stored. Thus, the equipment is available for immediate use when its services are again required. Another procedure is to list the repairs or adjustments needed. These can be made on rainy days or at other times when outside work is not possible.





# FARM MACHINERY MAINTENANCE

## KEEP RUST AWAY

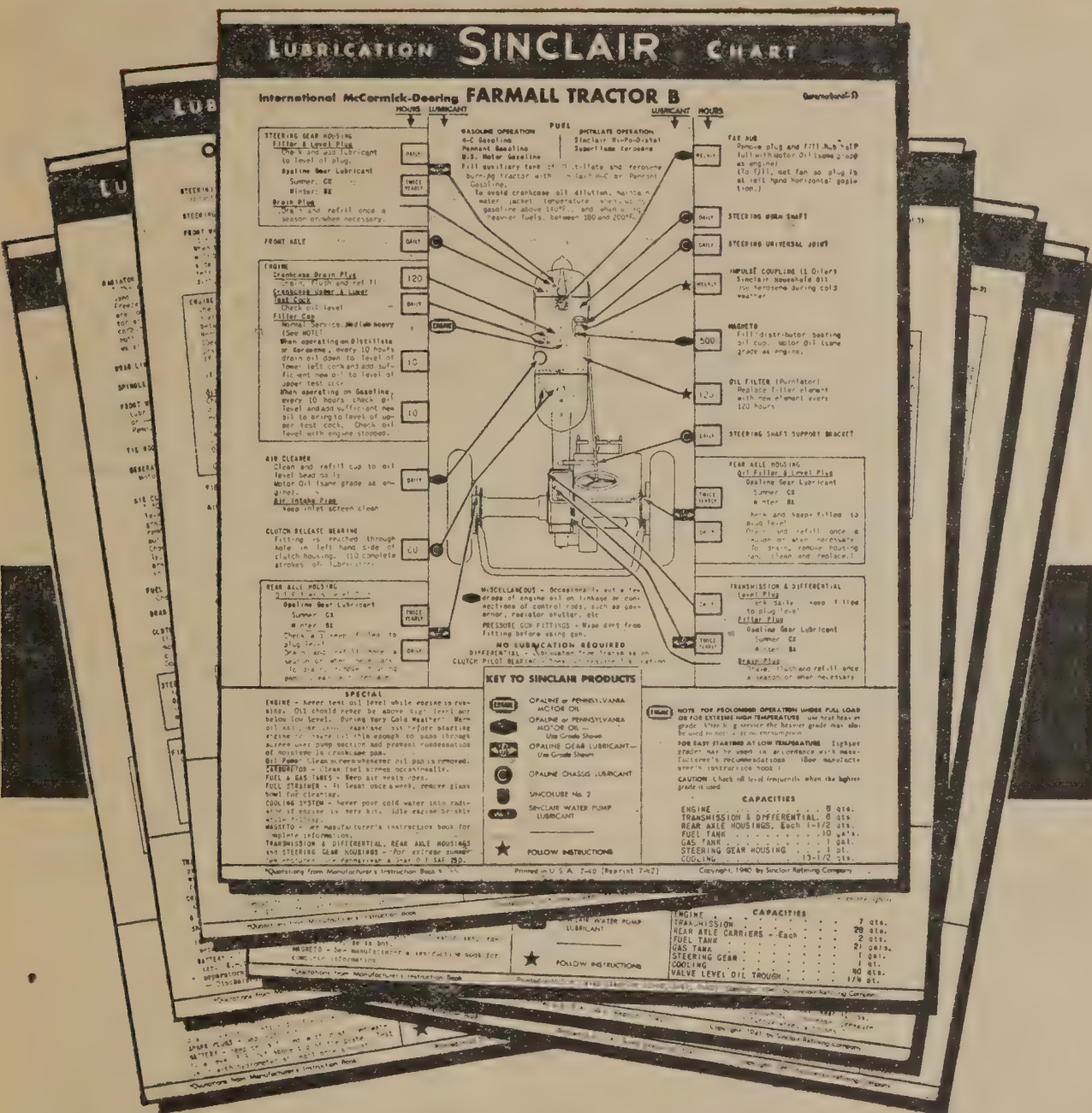
Prevention of rust on farm implements is extremely important. The hours a farmer must spend scouring rusty plow bottoms and other parts with a soft brick, or replacing rust-weakened machine parts can be eliminated through the use of Sinclair Rust-O-Lene B. This highly successful rust-preventive was developed to meet Government requirements for the protection of war equipment against rust damage.

Rust-O-Lene B is easily applied either by brushing or spraying. It will prevent the rusting of exposed

or stored equipment for long periods of time. It is readily wiped off the protected equipment by use of a rag dampened with kerosene or petroleum solvent.

Department of Agriculture tests over a period of 18 months have demonstrated that rust-preventive compounds such as Rust-O-Lene B, are greatly superior to the usual oils and greases used on the farm for protection against rust. Information about how Rust-O-Lene B will protect your machinery is given on the back cover of this book. We suggest you read it.





# SINCLAIR LUBRICATION CHARTS SAVE TIME

They show you exactly when and where to lubricate your own make and model of tractor. The correct lubricant is also specified. Follow this chart and you will save time, wear and repair expense.

Ask your Sinclair Agent for the right chart for your tractor and your truck. Hang them up where you keep your lubrication supplies.

THEY ARE FREE



# LUBRICANT RECOMMENDATION

## for FARM IMPLEMENTS, TRUCKS

## and AUTOMOBILES

First, wipe off all fittings and clean out all oil holes to insure the lubricant reaching the bearings clean and free from abrasive dust and dirt.

| PART                                                                                                                                               | SINCLAIR LUBRICANT                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| <i>Chassis Bearings</i><br>(Grease Lubricated)                                                                                                     | Opaline Chassis Lubricant                                                                        |
| <i>Wheel Bearings</i><br><i>Universal Joints</i><br>(Plain Bearing Type)                                                                           | Sincolube No. 2                                                                                  |
| <i>Flexible Couplings</i><br>(Grease Lubricated)                                                                                                   |                                                                                                  |
| <i>Track Rollers and Idlers</i><br>(Lubricant Fittings)                                                                                            | Shamrock Lubricants or Opaline Chassis Lubricant                                                 |
| <i>Water Pumps</i><br>(Packing Gland Type)                                                                                                         | Water Pump Lubricant                                                                             |
| <i>Transmissions</i><br><i>Differentials</i><br><i>Steering Gears</i><br><i>Enclosed Gears</i><br><i>Universal Joints</i><br>(Needle Bearing Type) | Opaline Gear Lubricants<br>(Follow manufacturers' instructions regarding proper S. A. E. Grades) |
| <i>Open Gears</i><br><i>Drive Chains (Except Roller)</i><br><i>Wire Rope</i>                                                                       | Onyx Lubricant H<br>(Unless dry operation is recommended by manufacturer)                        |
| <i>Engines</i><br><i>Bearings (Oil Lubricated)</i><br><i>Roller Drive Chains</i>                                                                   | Opaline or Pennsylvania Motor Oils in proper S. A. E. Grades                                     |
| <i>Hydraulic Pump and Systems</i><br>(Not Brake or Shock Absorbers)                                                                                | Opaline or Pennsylvania S. A. E. 10 Motor Oils                                                   |

# GENERAL LUBRICATION CHART

## for DAIRY EQUIPMENT

| PART                                                                                                                                                            | SINCLAIR LUBRICANT                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Electric Motors                                                                                                                                                 | Oil—Cordymo<br>Grease—Bearing Grease AF No. 1                                                                                      |
| <i>Gears &amp; Gear Units</i><br>Spur, Single Helical, Herringbone,<br>Special Bevel<br>Worm<br>Open Gears and Cables                                           | Rubilene Heavy<br>Modoc Cylinder Oil Dark<br>Onyx H                                                                                |
| <i>Turbine Oils for Separators, etc.</i><br>Light Turbine Oil<br>Medium Turbine Oil<br>Heavy Turbine Oil                                                        | Cordymo<br>Rubilene Light<br>Rubilene Medium Heavy                                                                                 |
| <i>Steam Cylinder Oils</i>                                                                                                                                      | Modoc Cylinder Oil Dark, Valve Oil<br>Dark or Duro Cylinder Oil                                                                    |
| <i>General Lubrication</i><br>General Machine Oil<br>Ball Bearing Grease<br>General Purpose Cup Greases<br>Pressure System Greases                              | Rubilene Medium<br>Bearing Grease AF No. 1<br>Cup Greases Nos. 1, 2, 3, 4, 5<br>Opaline Pressure System Greases Nos.<br>0, 1, 2, 3 |
| <i>Hydraulic Pumps &amp; their Systems</i><br>Vane Type (With Flow Control<br>Valves)<br>Vane Type (Without Flow Control<br>Valves)<br>Gear Type<br>Piston Type | Sinturlite, Palite<br><br>Rubilene Light<br>Rubilene Light or Light Medium<br>Rubilene Light or Light Medium                       |
| <i>Flexible Couplings</i><br>Gear, Floating Key and Flexible Pin<br>Types                                                                                       | Rubilene Ultra Heavy                                                                                                               |
| Roller, Silent Chain, Jaw Types<br><br>Open                                                                                                                     | Oil—Rubilene Medium Heavy<br>Grease—Sincolube No. 2<br><br>Special care required                                                   |
| <i>Compressors</i><br>Air<br>Refrigerating                                                                                                                      | Rubilene Light<br>Sinclair Ice Machine Oils (Follow<br>manufacturers' recommendations)                                             |



**SAVE TIME and WEAR with**

*Sinclair*

*Quality Petroleum Products  
for the Farm*

Sinclair provides a complete line of lubricants, fuels, insecticides and rust preventives for farm. Their efficiency has been proven by exacting service on the nation's farms.

### *Power Fuels*

Sinclair H-C Gasoline—Sinclair Ethyl Gasoline—Sinclair Tractor Fuels—Sinclair SuperFlame Kerosene. A **correct**, efficient fuel for every use—each one a quality product.

### *Lighting and Heating Oils*

Sinclair SuperFlame Kerosene, a highly refined fuel for lamps, ranges and brooder stoves. Sinclair SuperFlame Light, for pot type burners, space heaters, and most brooder stoves. Sinclair SuperFlame Medium, a clean-burning, economical furnace fuel.

### *Sinclair Motor Oils*

Sinclair Pennsylvania Motor Oil—Made from highest quality Bradford-Alleghany Pennsylvania grade crude oil. De-waxed and de-jellied, assuring free flowing at all temperatures. A premium oil at a moderate price.

Sinclair Opaline Motor Oil—Made from selected highest quality Mid-Continent paraffin base crudes. Also de-waxed and de-jellied. A high quality oil for economical operation.

Sinclair Ten-ol Oils—A highly refined additive-type motor oil for tractor and other engines where manufacturer recommends an additive-type oil. Has long lasting qualities and promotes clean engine operation.

Sinclair Flushing Oil—A light oil with excellent "washing" qualities for cleaning and flushing crankcase and gear boxes.

## *Lubricants*

**Opaline Gear Lubricants BX-CX**—Extreme pressure lubricants recommended for all transmissions and differentials.

**Opaline Chassis Lubricant**—Tough body—stands up in heavy duty—meets all conditions of temperature. Made for pressure gun and grease cup application.

**Sincolubes**—For wheel bearings and certain universal joints. Does not thin out under high heat.

**Sinclair Water Pump Lubricant**

**Sinclair Cup Greases**

**Sinclair Axle Grease**

## *Sinclair Specialties*

**Sinclair P.D.**—Household Insect Spray. Sure death to flies, mosquitoes, bedbugs, roaches, moths, and ants and many other insects. Rates "Grade AA"—U. S. Gov't Standards for highest kill.

**Sinclair Industrial Spray**—General purpose insect spray—exceptional killing power. Rates "Grade AA"—U. S. Gov't Standards for highest kill.

**Sinclair Stock Spray**—Kills and repels. Keeps flies off livestock.

**Sinclair Rust-O-Lene B**—A new highly efficient rust-preventive developed for war uses and now available to keep farm equipment from rusting. Easily applied and removed. See details outside back cover.

**Sinclair Household Oil**

**Sinclair Spot Remover**

**Sinclair Lighter Fluid**

**Sinclair Metal Polish**

**Sinclair Super Auto Polish**

**Sinclair Tar Remover**

**Sinclair Soap**



Reg. U. S. Pat. Off.

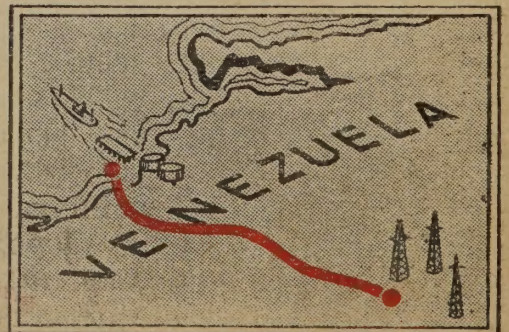


The  
Company  
that  
Manufactures  
**SINCLAIR  
PRODUCTS**

**S**INCLAIR manufactures a complete line of petroleum products for all industrial, commercial and domestic uses. Sinclair is one of the largest suppliers of aviation gasoline, all-purpose gasoline, aviation oils, specialized greases, waxes and rust-preventives used by the Army and Navy. Sinclair also makes butadiene for production of synthetic rubber.



Sinclair products are used by more than 150 American railroads. Flagships of American Airlines, the country's largest air transportation company, also Dixieliners of Chicago and Southern Air Lines are lubricated exclusively with Sinclair Pennsylvania Motor Oil. Thousands of manufacturing plants use Sinclair oils, greases, and fuels.





# SINCLAIR

- PRODUCES oil from more than 8,000 wells in the United States and Venezuela.
- MANUFACTURES all types of petroleum products in 10 modern refineries, processing 90,000,000 barrels of crude oil annually.
- TRANSPORTS 300,000 barrels of crude oil and finished products daily through 14,000 miles of pipe lines; uses thousands of tank cars and a big fleet of tankers.
- OPERATES a chain of waterfront terminals extending from the Gulf of Mexico to New England.
- DISTRIBUTES petroleum products through 2,000 wholesale bulk plants, conveniently located for supplying the farms. These plants also supply thousands of service stations.

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THOUSANDS of tank trucks deliver Sinclair products daily to American farmers.

**SINCLAIR FARM OILS**  
**LUBRICANTS *and* FUELS**



# New War Product Stops



on farm  
equipment

**W**artime research now has made available to farmers a new and sure way to protect valuable and irreplaceable machinery against rust. This new rust preventive, "Rust-O-Lene B," was developed by Sinclair to meet the needs of the U. S. Army. It has been helping to protect our fighting equipment on battlefronts throughout the world.

Rust-O-Lene B is a compound of petroleum and other substances. It adheres firmly to metal surfaces forming a thin but elastic film through which air and moisture cannot penetrate.

**EASY TO USE.** Rust-O-Lene B can be applied with a brush or used in a spray if diluted with a small amount of kerosene or petroleum solvent. It is easily removed from equipment with a rag soaked in kerosene or petroleum solvent. Readily removed from hands and clothing.

**RUST-O-LENE B LASTS!** Unlike grease or oils sometimes used for the purpose, Rust-O-Lene B has been designed specifically as a rust preventive. Properly applied, it will give protection for many months because it will not crack, peel or slip even though exposed to severe rainfall and heavy dew in open fields.

Your Sinclair Agent can supply you with Rust-O-Lene B in any quantity to suit your needs. It is delivered in light iron barrels, 100-pound drums or 25-pound pails and it's not expensive.

# SINCLAIR RUST-O-LENE B